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ABSTRACT

An instructor's manual and student activity guide on keypunch are provided in this set of prevocational education materials which focuses on the vocational area of office occupations. (This set of materials is one of ninety-two prevocational education sets arranged around a cluster of seven vocational offerings: agriculture, home economics, distributive education, health occupations, world of work, trade and industry, and office occupations.) The instructor's guide is organized into the following elements: title of activity, duration of activity (five to seven days), activity goals, four instructional objectives, related vocational clusters, and activity implementation (description, materials needed, teacher preparation prior to class, during the class, follow-up activities, answer keys to student check point activities, masters for duplication, and a set of transparencies.) The student activity guide provides step-by-step instructions (narrative and illustrations) for completing each instructional objective. At the end of each set of instructions is a student check point (evaluation activity). Occupational descriptions for verifier operator, keypunch operator, and sorting-machine operator conclude the document. (JH)

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ED169327

OFFICE OCCUPATIONS – KEYPUNCH

Kit No. 38

INSTRUCTOR'S MANUAL

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In Cooperation With

Vocational Education Media Center
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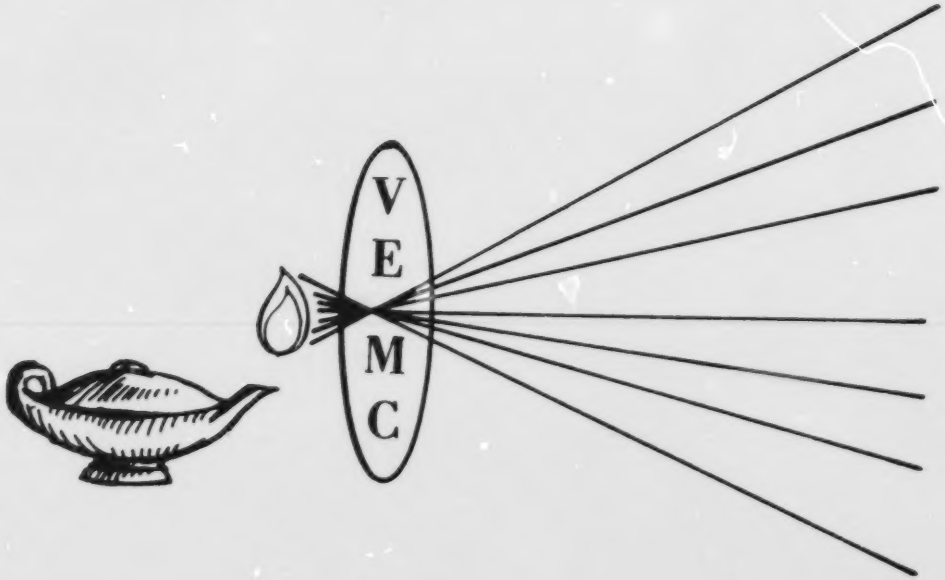

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TRANSPARENCY 12 – All of the equipment is known as the hardware of the computer data-processing industry. Of course, machines do not function without operators. How does the data process begin?

TRANSPARENCY 13 – The process begins with gathered data or information. A program is devised and outlined to process the data from the original source documents to the final report. This outline is put down in a step-by-step form known as a Flow Chart.

TRANSPARENCY 14 – Any action can be put into a flow chart form. For example: Starting a car. Assume you are standing at the door of a car. Trace on the flow chart the steps you must take to get to the actual turning of the key.

TRANSPARENCY 15 – Flow charts may not always look the same, in keypunch, your activity would follow a flow chart such as this:

TRANSPARENCY 16 – These sheets are called print-outs or output. All the computed information can be read from these sheets.

TRANSPARENCY 17 – There are many occupations within the computer industry. A computer company may handle records for many different companies. Keeping records, printing reports, and solving problems, can be done with lightning swiftness by the electronic equipment. However, all of this equipment needs to be programmed, operated, and maintained. The opportunities for careers in this field are many.

TITLE OF ACTIVITY

Kit No. 38 – Office Occupations – Keypunch

DURATION

Main Activity – 3 days
Follow-up Activity – 2 to 4 days

GOALS

The student will:

1. Gain an understanding of functions of the machinery used in punch-card operations
2. Acquire knowledge of sequence of process of storing information on punch cards
3. Understand the importance of correctly recording information
4. Have knowledge of skills involved in punching, sorting, and reading cards.

INSTRUCTIONAL OBJECTIVES

1. Given an opportunity to view machines from transparencies, the student will recognize and match function with machine on a vocabulary sheet.
2. Given a card with the alphabet and numbers punched, the student will reproduce the card and identify rows on the card.
3. Given cards already punched or marked, the student will verify the correctness of the position of the "punch."
4. Given a set of cards, the student will act as keypunch operator, verifier, collator, tabulator, and interpreter, recording the information on a set of work sheets.

VOCATIONAL CLUSTERS

Office Occupations
Trade and Industry

ACTIVITY IMPLEMENTATION

A. Description

This activity will give the student a glimpse into the world of data processing. Begin with the source document and the flow chart after having read the introduction to the equipment.

Transparency Introduction: Follow the script and directions. A matching test is included to be done after the transparency presentation. The instructor may add a vocabulary work sheet (which is also included) and use the introduction as the first class period before giving out the student guides and work sheets that accompany the guide.

Student Learning Activity Guide: Give out guides and work sheets. Read aloud the Introduction, Goals, and Directions. Students can work at their own rate. Walk around and help students who may have difficulty. Check the answers when asked. The answer key is provided.

The student begins by identifying the rows on a punch card. From this the student progresses to marking cards to simulate the punching of the entire alphabet and the numbers. Emphasize neatness to the students since accuracy is of the utmost importance in recording data on punch cards. The instructor should read through the activity prior to class. After the information has been recorded from a source document, the student is given objectives to perform keypunch operations.

Students should be reminded that NO machine acts of its own accord. All machinery is programmed to obtain results, and the accuracy of the final report depends on the accuracy of the person doing the input.

The final objective is to interpret an already punched card. This card carries the message "HAND IN YOUR WORK SHEETS." As students near this phase, caution each student to do his/her own interpreting.

B. Safety

No special precautions.

C. Materials Required

1. Audio Visual Equipment
   Overhead projector to show transparencies

2. Technical Equipment
   None

3. Expendable Materials
   Paper for spirit duplication
   Masters for transparency matching test and vocabulary work sheet
   Masters for set of work sheets to be used with student guide
   Notebook paper
   Extra No. 2 pencils
   Blank punch cards -- a local business may donate these. If not, a sheet to make a master of a facsimile of a punch card is included.

D. Preparation Prior To Class

Look over the entire activity first. On the first day, set up projector and prepare to show transparencies. Have all sheets duplicated. Make sure to have enough for any person who may have an uncorrectable error. On remaining days, the student guides, work sheets, extra pencils, and blank punch cards should be ready before students come to class.

E. During Class Session

First Day: show transparencies, give matching test and do vocabulary sheet (optional). The vocabulary sheet may also be used as a follow-up activity.

Other Days: give out guides, review the introduction, goals, and directions. Have each student begin with the first instructional objective in the programmed text. The instructor should be flexible and classes will differ. The instructor should also be alert in order to help students who need assistance.

F. Follow-up Activities

1. Have students fill out VIEW Fact Sheet.
2. Assignment: Look in the classified section of the newspaper and find advertisements for keypunch operators and other data processing jobs. Bring these to class and compare offered salaries with other jobs.
3. Give each student two blank cards or facsimiles and instruct them to punch a message, but not to print the message at the top. Then have students exchange cards and interpret each other's messages.
4. Using the vocabulary work sheet, have students:
   a.) take a spelling test on words
   b.) define words
   c.) write a paragraph about keypunching using words from the list.
5. Discuss the Occupational Descriptions and then have students choose a job and tell (orally or written) why they would like or dislike the occupation.
6. Have students do a flow chart on sheet in masters group.
7. Visit a local computer center.

ANSWER KEY

Transparency Check-up:

1.	h	7.	e
2.	d	8.	g
3.	f	9.	i
4.	h	10.	k
5.	j	11.	c
6.	a		

Instructional Objective VI
Answer: Student Identification 048273
Name Jerry Smith

Instructional Objective IX
Answer: 2 boys; 2 girls

Instructional Objective X
1. Brown
2. Davis
3. Smith
4. Watson

Instructional Objective XI

1.	Brown	4
2.	Davis	3
3.	Smith	2
4.	Watson	3
	Total	12

Instructional Objective XII
Message is:
HAND IN YOUR WORK SHEETS.

MASTERS FOR DUPLICATION

- VIEW Fact Sheet
- Transparency Check-up
- Flow Chart Project
- Work Sheets
  - Instructional Objectives I, II, III
  - Instructional Objectives, IV, V
  - Instructional Objectives VI, VII, IX, X, and XI
  - Instructional Objective XII
- Vocabulary Work Sheet (Follow-up)

VIEW FACT SHEET

NAME _____ CLASS _____ OCCUPATION _____

A. List the advantages (good points) of this occupation (job).

B. List the disadvantages (bad points) of this occupation (job).

C. List three things you should know to do this occupation (job).
   1.
   2.
   3.

D. What type of education should you get to be prepared (do) for this occupation (job)?

E. What courses must you take to go into this occupation (job)?

F. What do you think your future in this occupation (job) will be?

G. What wage can you expect in this occupation (job)?

H. What are the working hours of this occupation (job)?

I. To learn more about this occupation (job), write to:

J. Using a scale of 1 to 5, circle the number that measures your interest in this occupation (job) as a possible career.

I don't like it. ← 1 2 3 4 5 → I like it.

TRANSPARENCY CHECK-UP

Match the following:

____	1. punch card	a.	similar to a typewriter but punches holes instead of printing
____	2. verifier	b.	a rectangular card with 80 spaces across used for recording data
____	3. collator	c.	information
____	4. hardware	d.	places notches on cards to identify errors or accuracy
____	5. flow chart	e.	reads the data that has been punched in a card
____	6. keyboard	f.	arranges two or more sets of cards into one set
____	7. interpreter	g.	collects selected data from cards and compiles report
____	8. tabulator	h.	machinery or equipment used in Computer-Data Processing
____	9. source document	i.	the original from which data is taken
____	10. print-out	j.	step-by-step outline of a program
____	11. data	k.	the sheet that records information from the punched cards.

FLOW CHART PROJECT

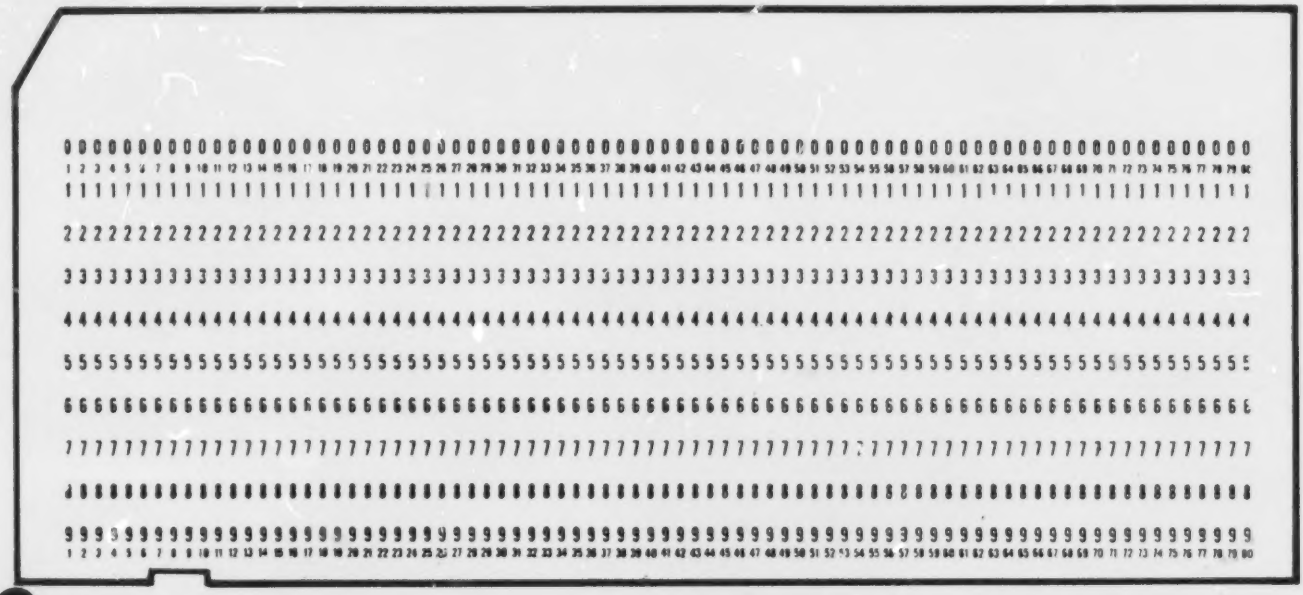
CREATE A FLOW CHART FOR ONE OF THE FOLLOWING ACTIVITES OR AS DIRECTED BY YOUR INSTRUCTOR.

START	ACTIVITY
Standing at sink	Brushing teeth
Asleep	Getting ready for school (waking, getting up, etc.)
Watching TV	Taking a shower (bath)
Standing, doing nothing	Polishing shoes

WORK SHEET

Instructional Objectives I, II, III

1. (Punch Card)



Instructional Objective II

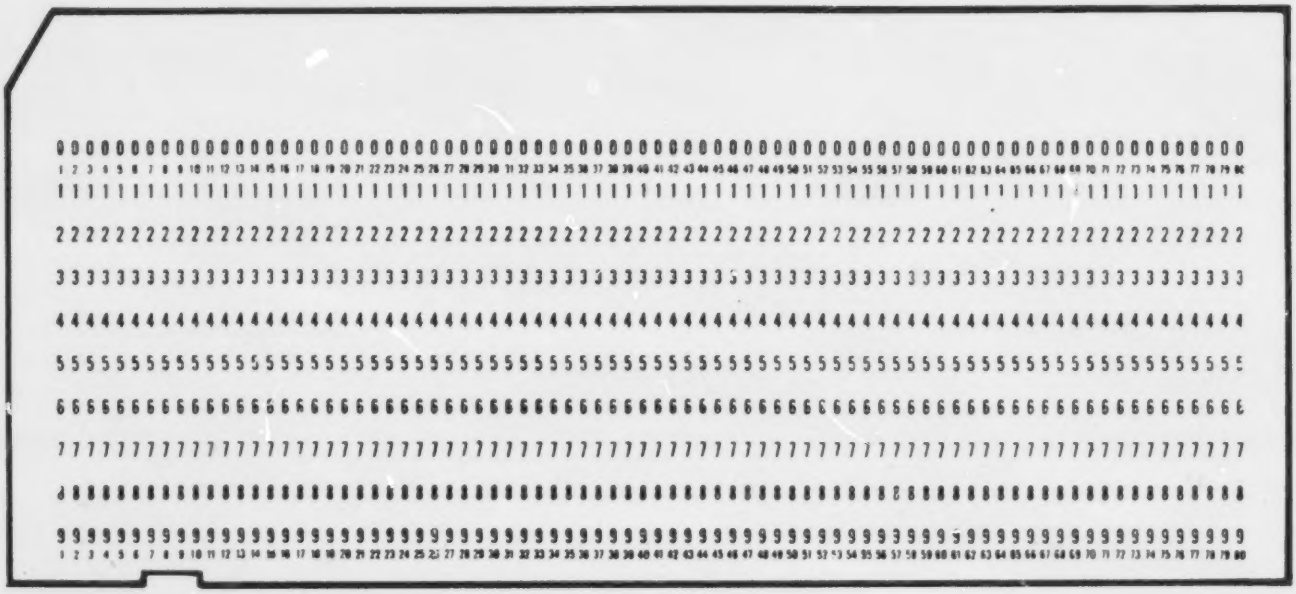
2. Number of vertical columns _____ (Step 2)

   Numbers that appear in each column _____ (Step 4)

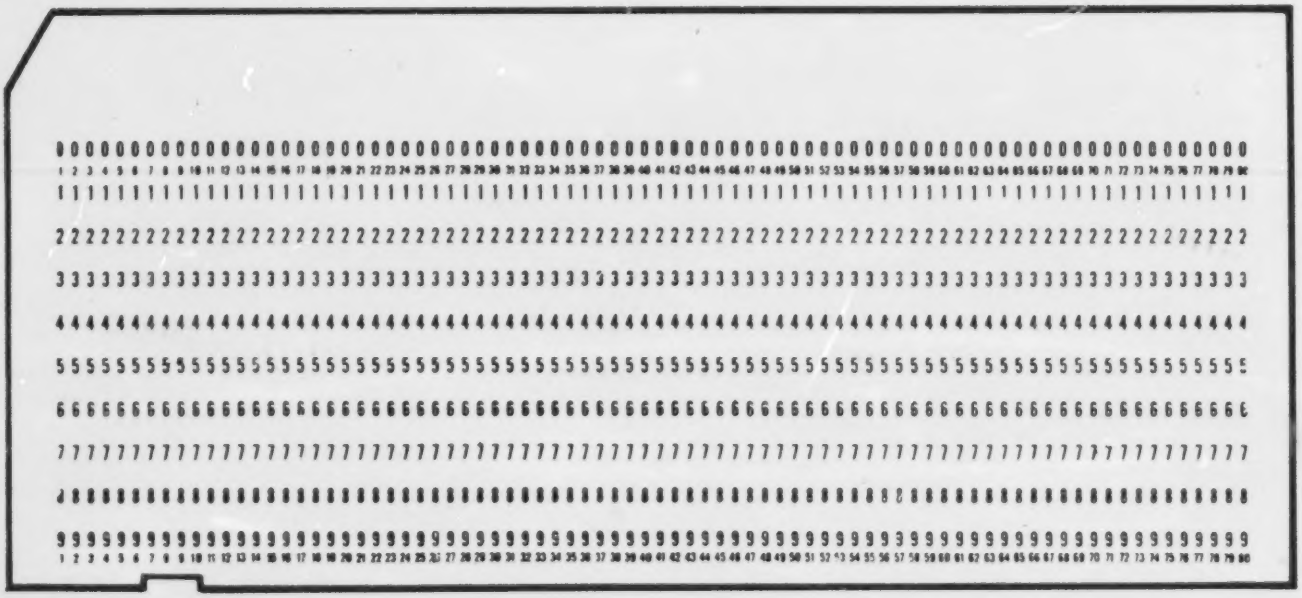
   Number of rows in each column _____ (Step 6)

WORK SHEET

PUNCH CARD TO DUPLICATE THE ENTIRE ALPHABET — Instructional Objective IV



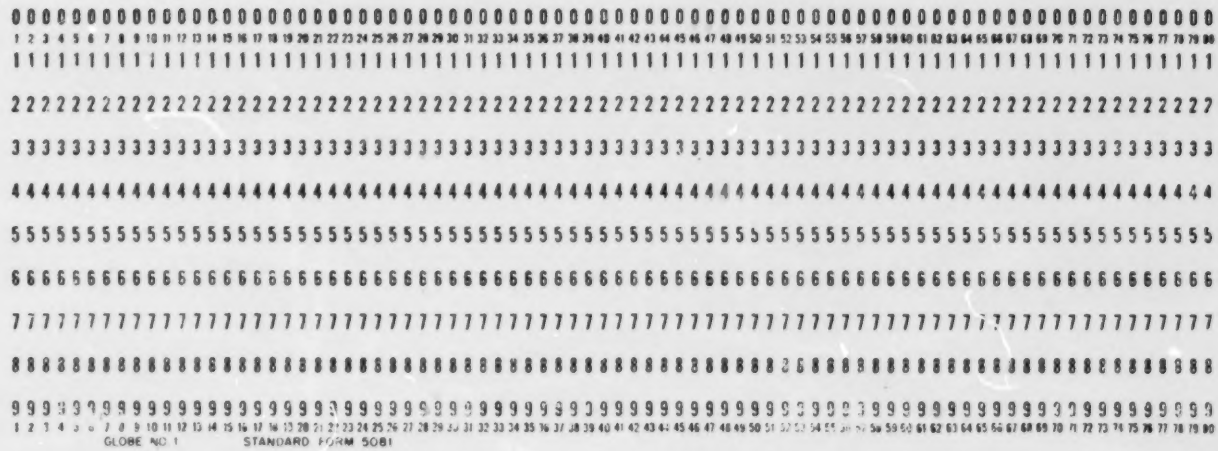
PUNCH CARD TO USE TO DUPLICATE NUMBERS — Instructional Objective V

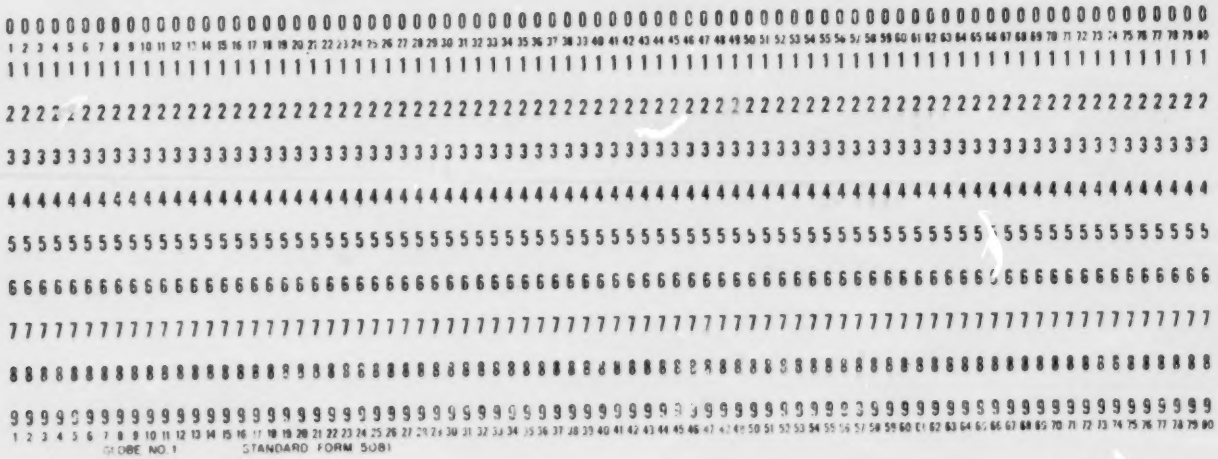


INSTRUCTIONAL OBJECTIVE VII

Note to teacher:

Duplicate enough cards for students to have four each.





WORK SHEET

Instructional Objectives VI, VII, IX, X, XI

Instructional Objective VI

STEP 4 – STUDENT IDENTIFICATION _____

STEP 5 – NAME _____

SOURCE DOCUMENT TO PUNCH A SET OF FOUR CARDS

Instructional Objective VII

STUDENTS

Identification No.	Name
25702	Calvin Smith
44603	Jane Davis
29404	Jerome Brown
48703	Anne Watson

Instructional Objective IX

BOYS _____ GIRLS _____

Instructional Objective X

COLLATOR LIST

1. _____
2. _____
3. _____
4. _____

Instructional Objective XI

TABULATOR: LIST <u>LAST</u> NAME ONLY

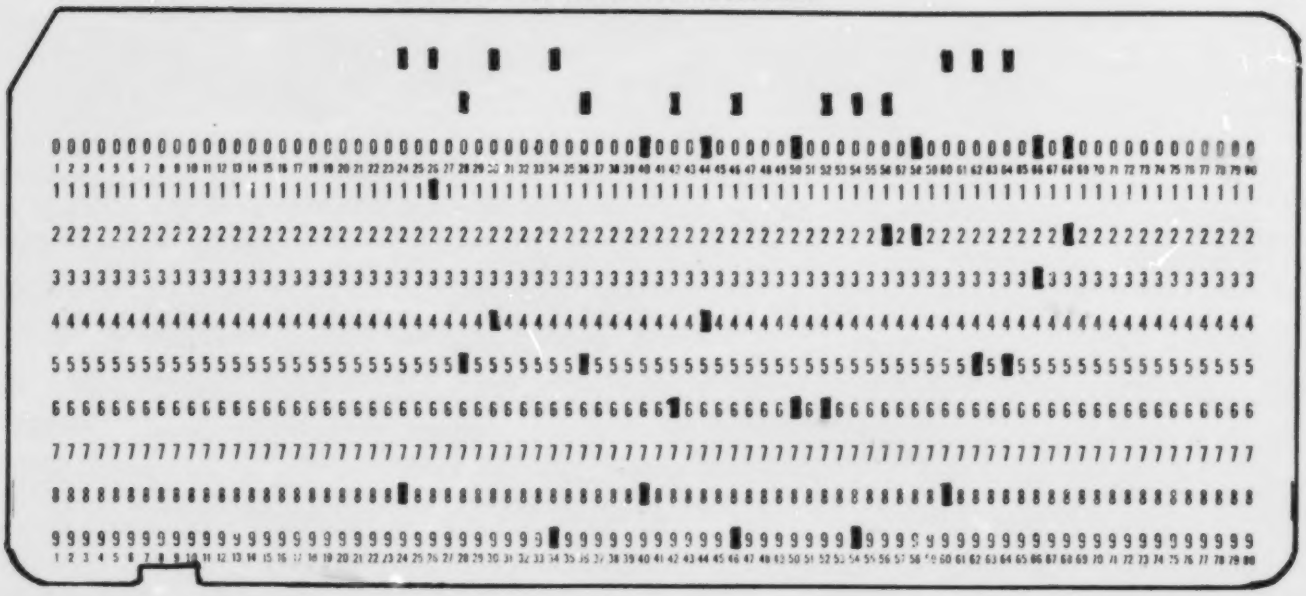
NAME	HOURS
1. _____	_____
2 _____	_____
3 _____	_____
4 _____	_____

TOTAL _____

WORK SHEET

Instructional Objective XII

PUNCHED CARD WITH MESSAGE:



MESSAGE: _____

Follow-up

VOCABULARY WORK SHEET

1. data
2. verifier
3. punch card
4. source document
5. print-outs
6. collator
7. tabulator
8. interpreter
9. computers
10. hardware
11. keypunch keyboard
12. alphabetical
13. numerical
14. zones
15. horizontal
16. vertical
17. input
18. duplicate
19. occupation
20. processing

1. Take a spelling test on above words.
2. Define words.
3. Write a paragraph about Keypunching, using words from the vocabulary list.

A Few Facts about Key Punch and Punchcards

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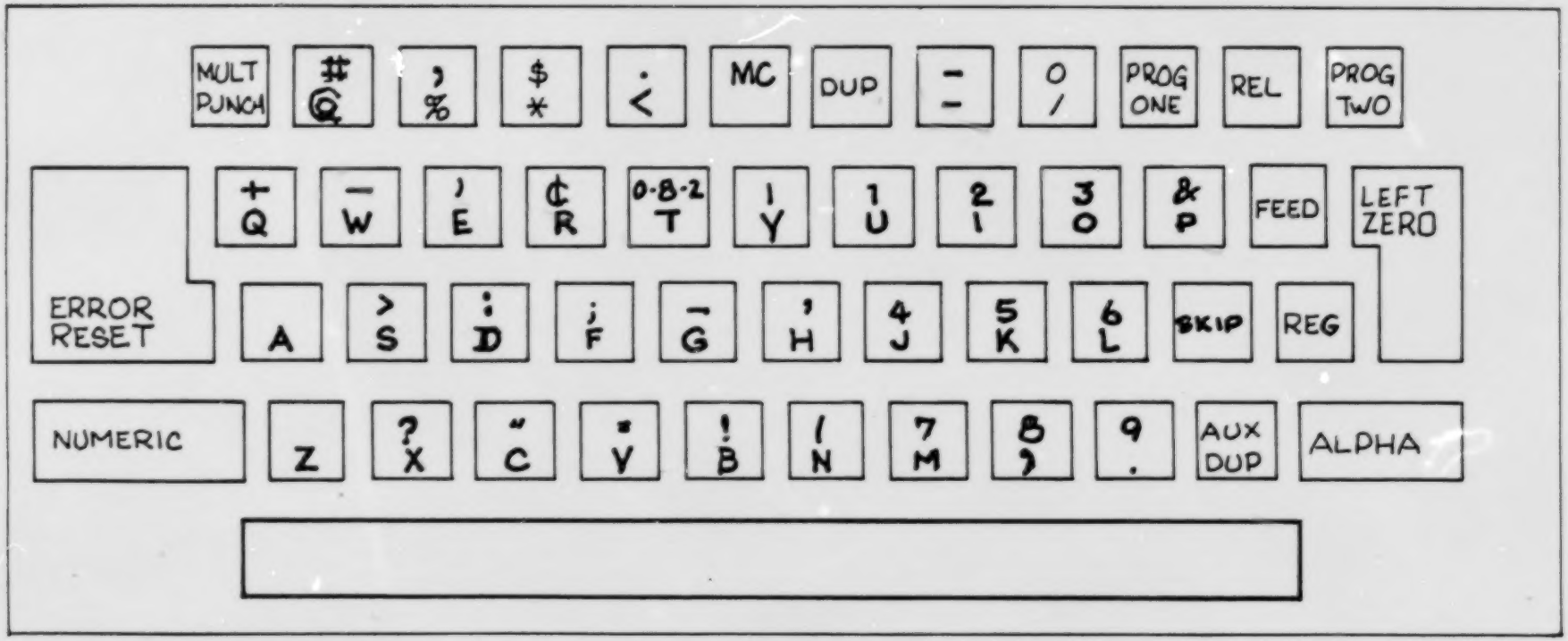

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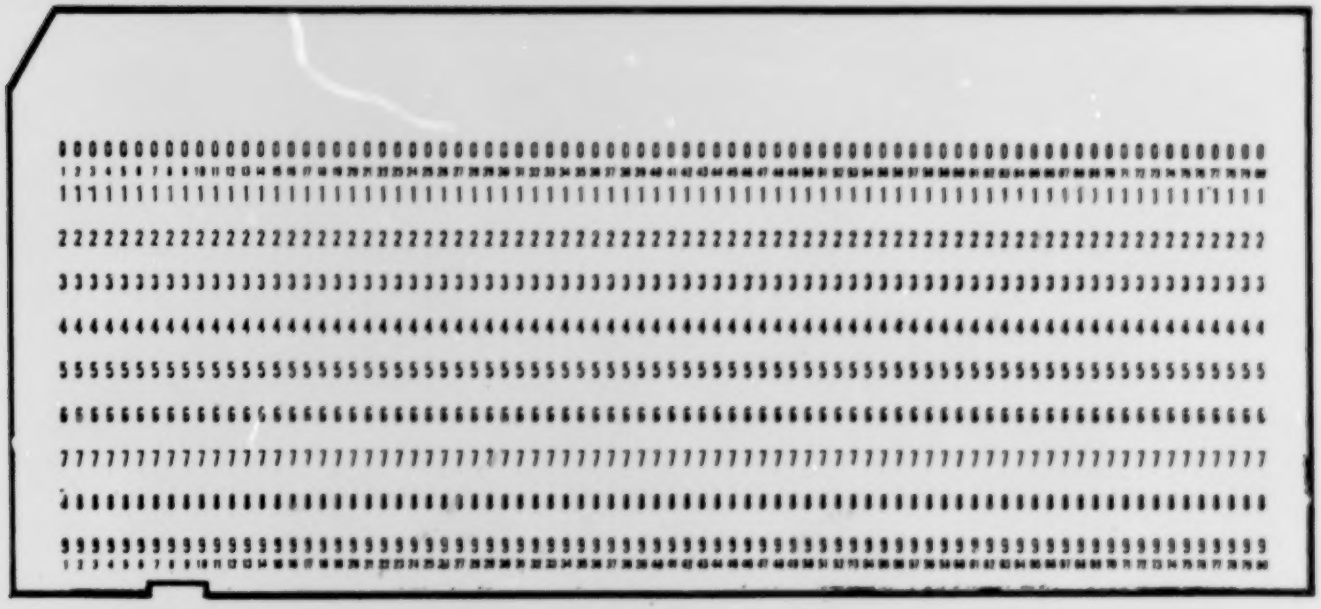
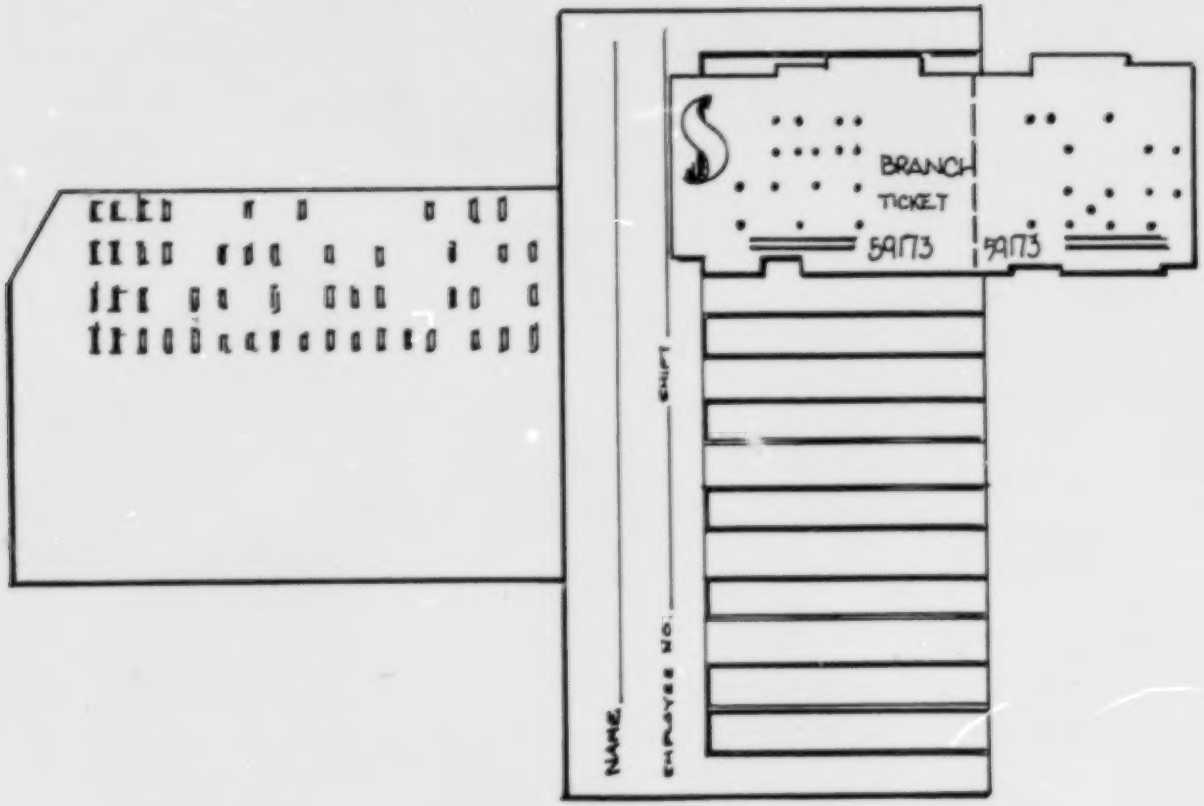
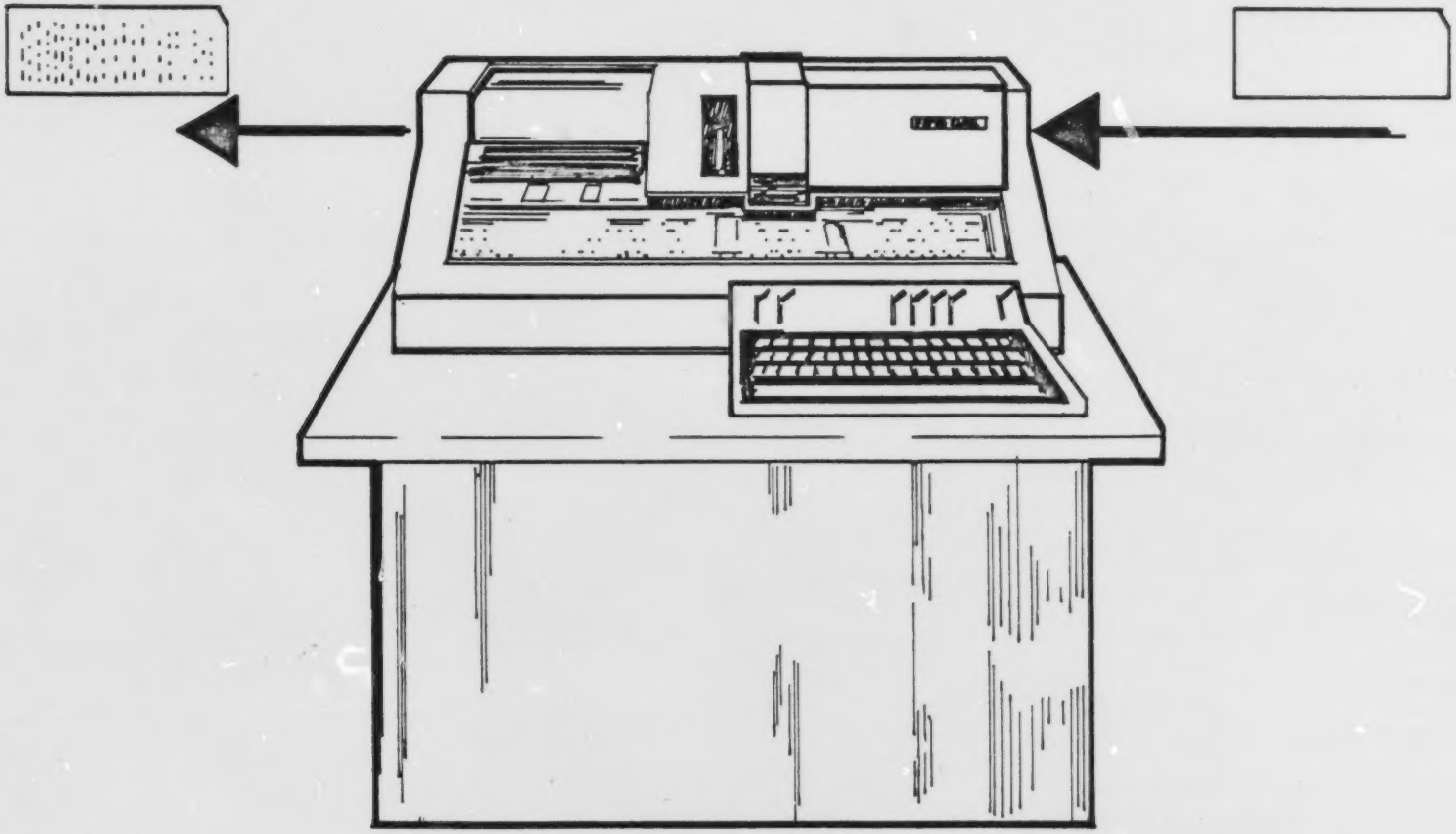



NAME
EMPLOYEE NO.
SHIFT
BRANCH
TICKET
59173
59173

PUNCHED CARDS OUT...

PLAIN CARDS IN...



KEYPUNCH

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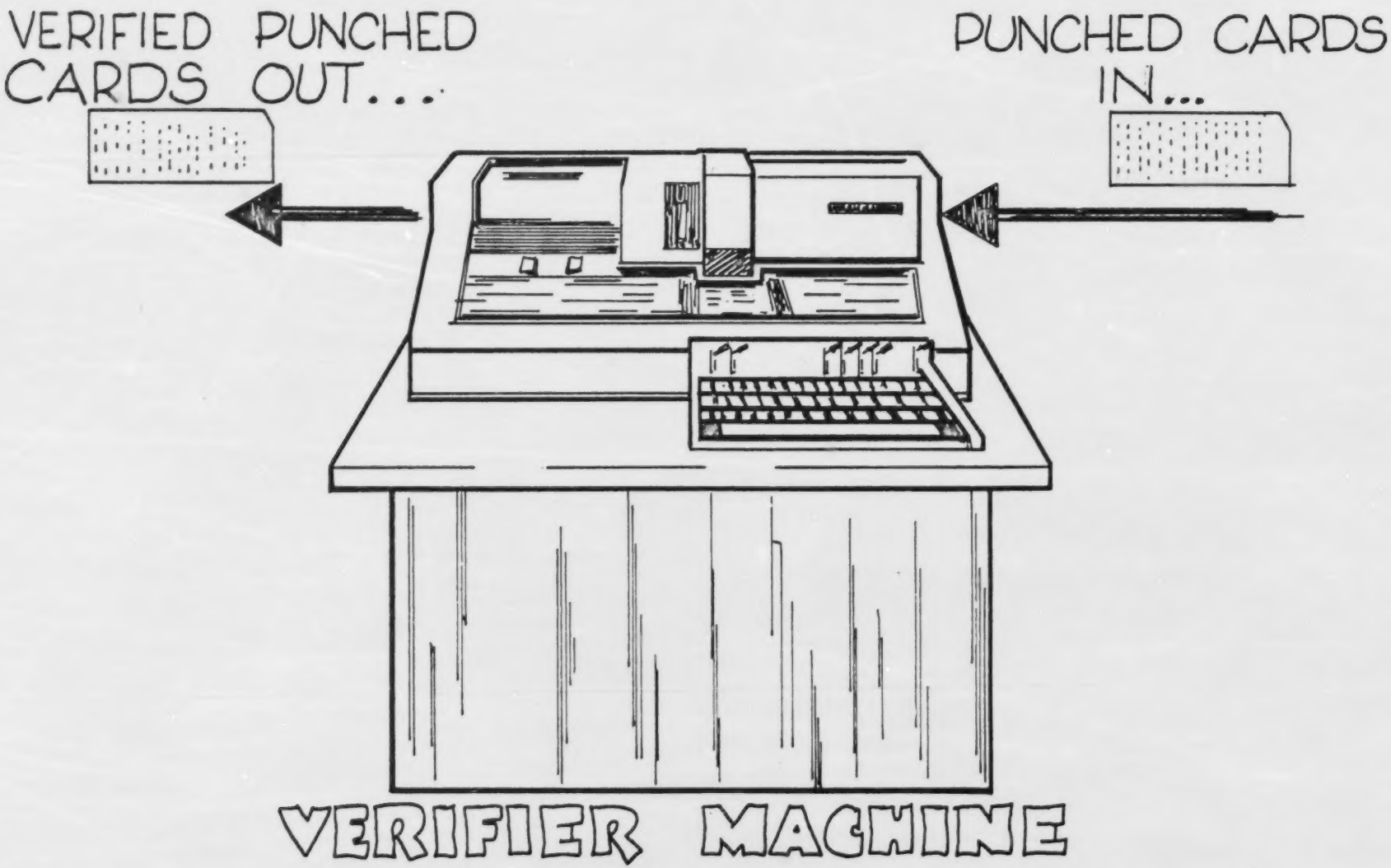

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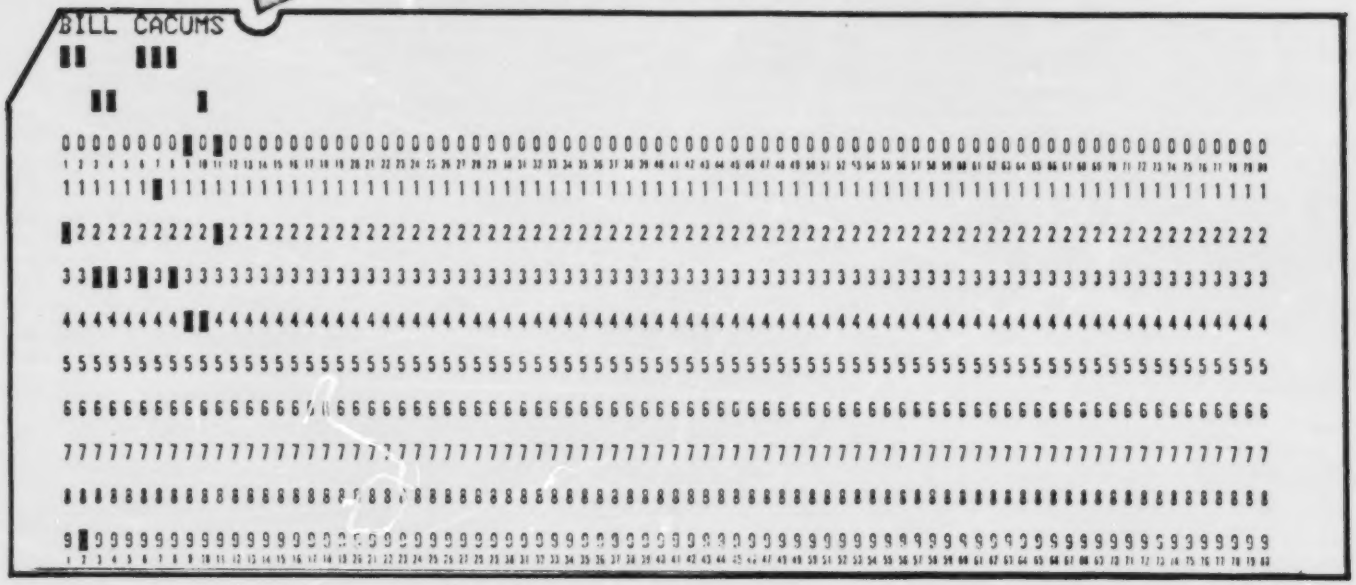
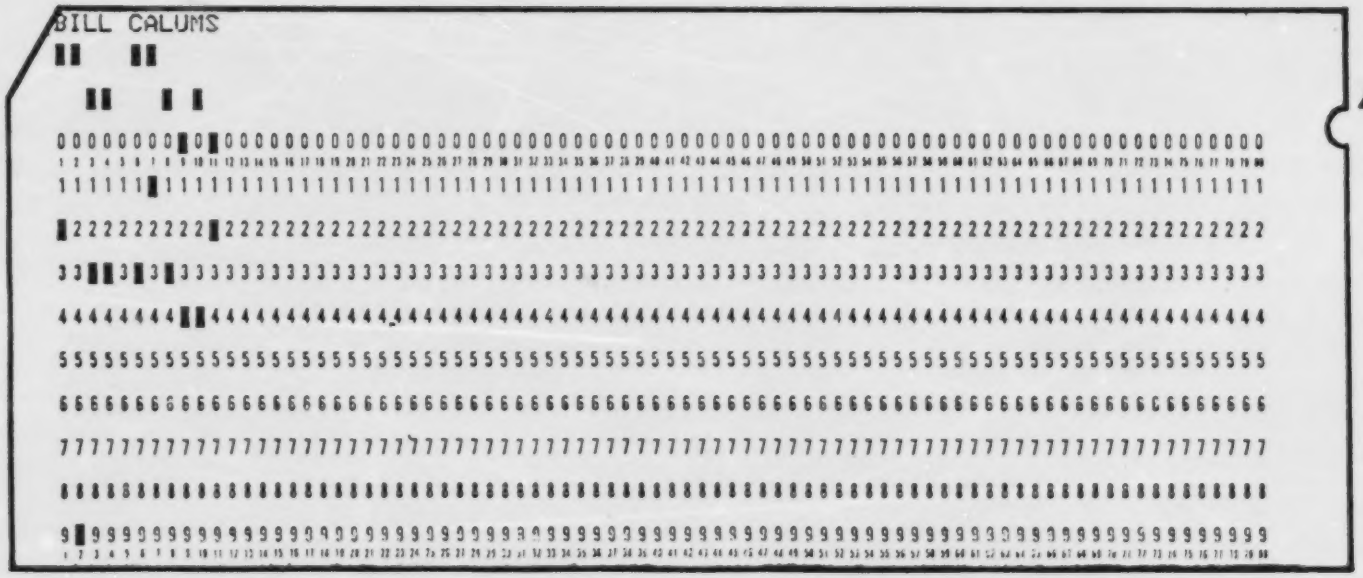
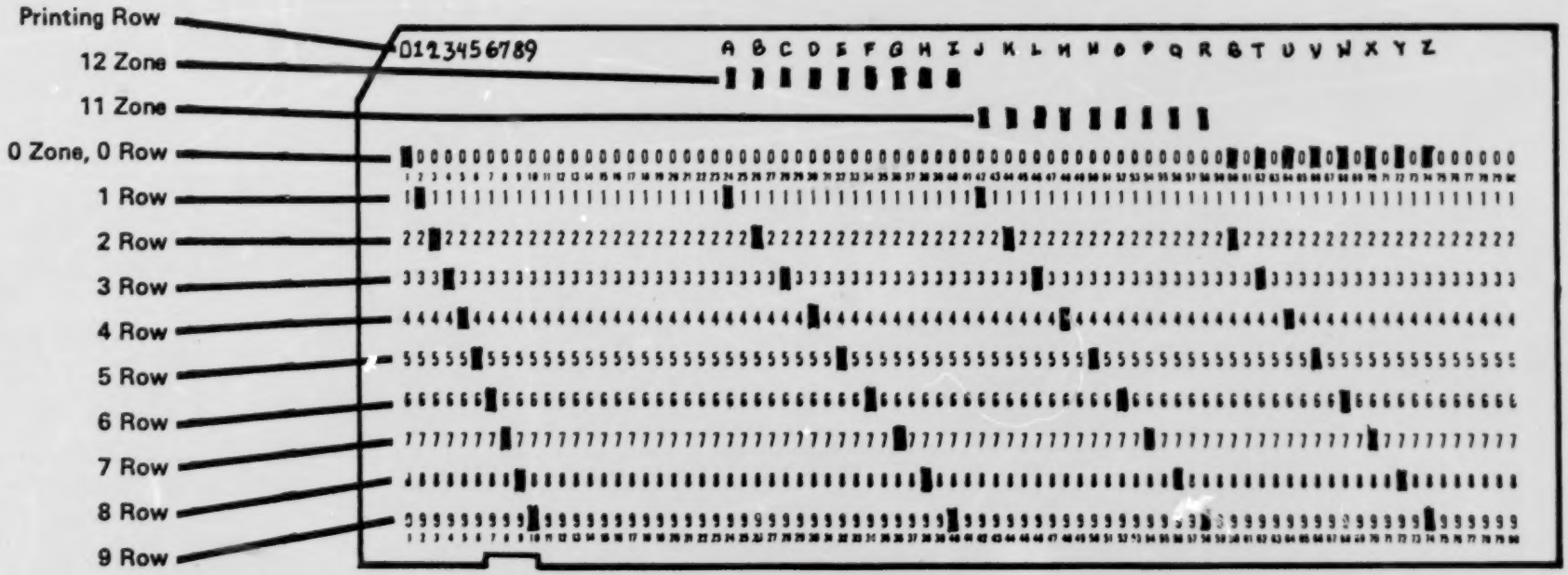
ERROR NOTCH



CORRECT NOTCH





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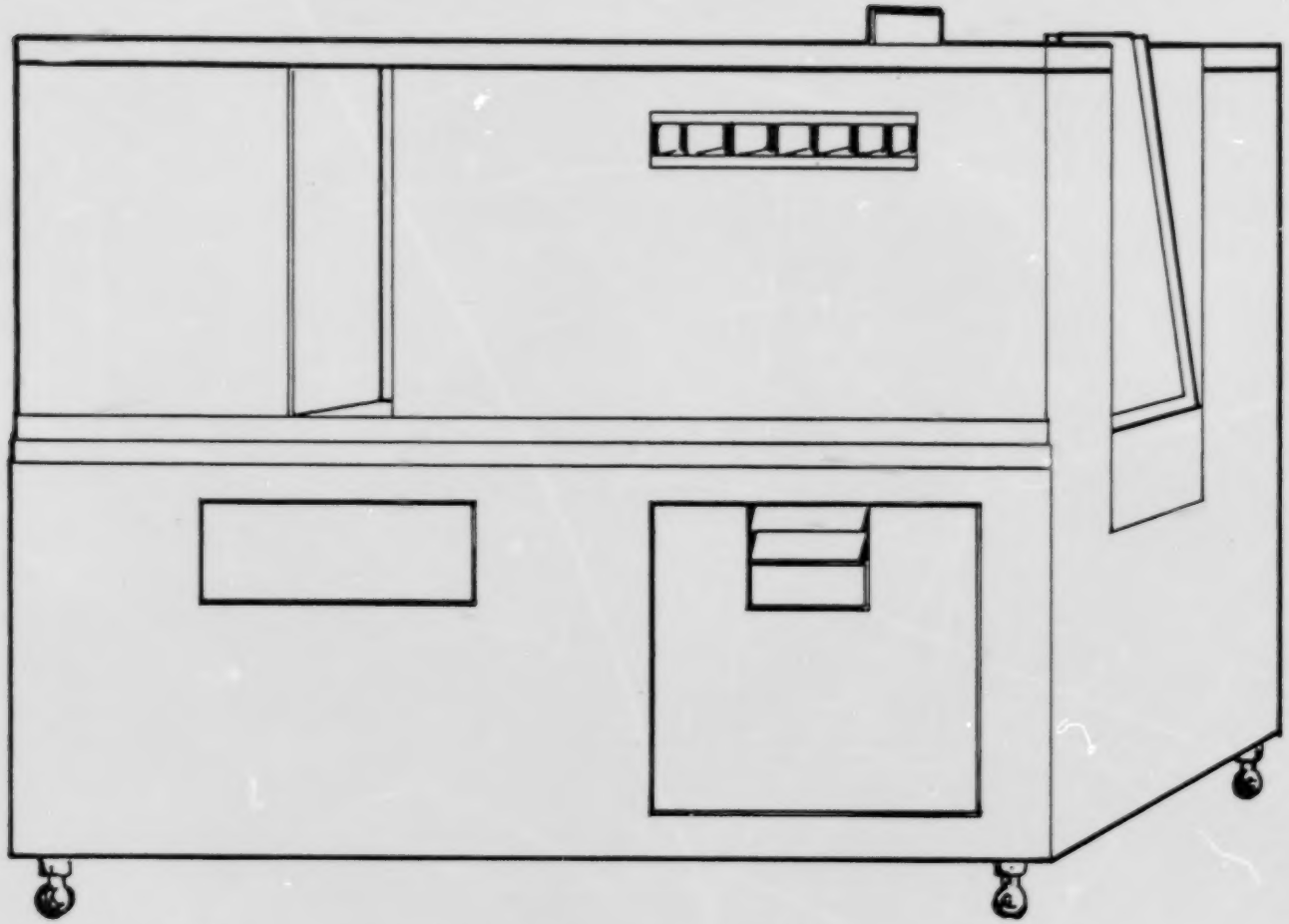

INTERPRETER

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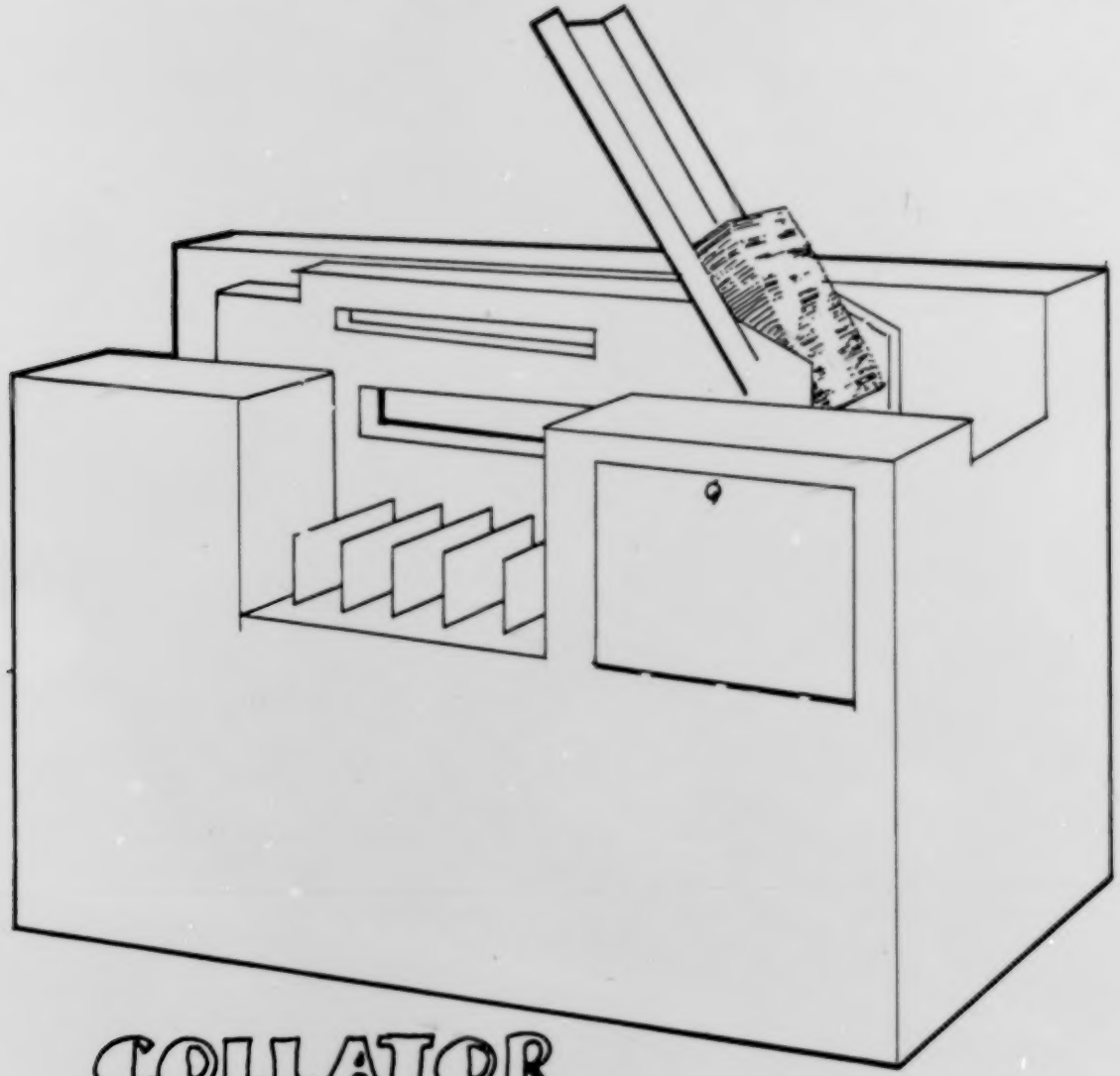

COLLATOR

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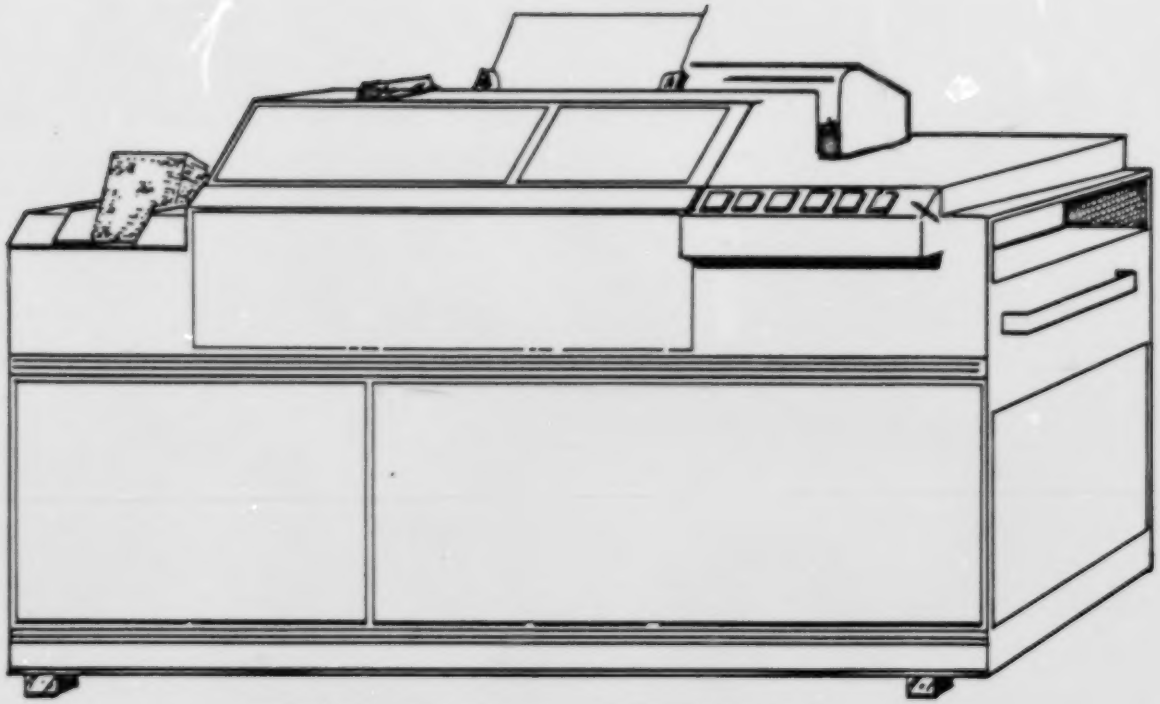

TABULATOR

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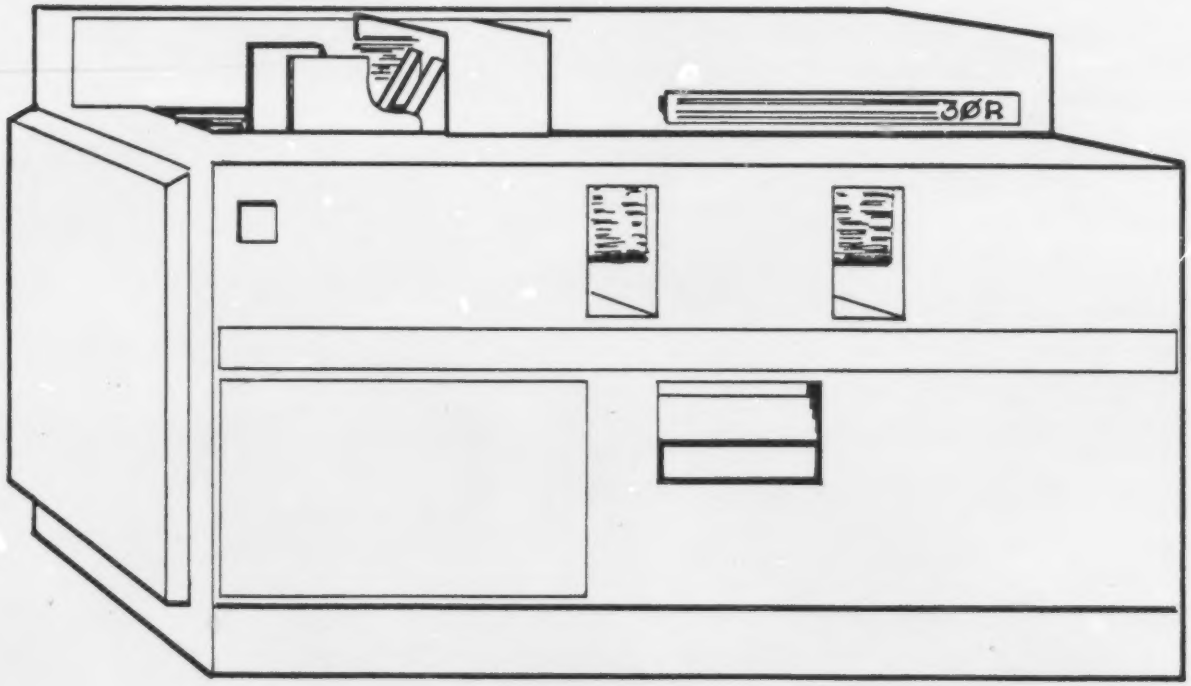

REPRODUCING PUNCH

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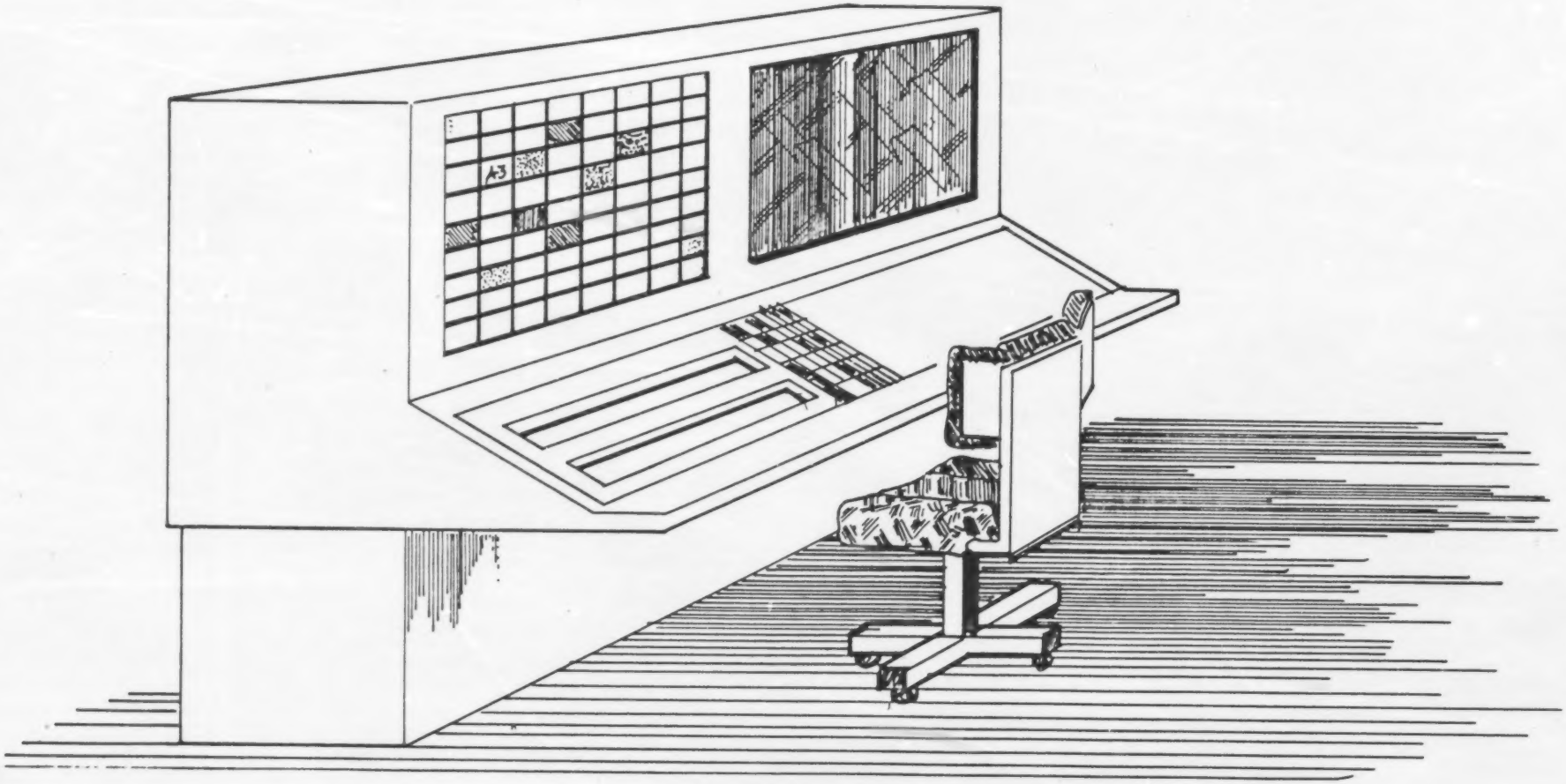

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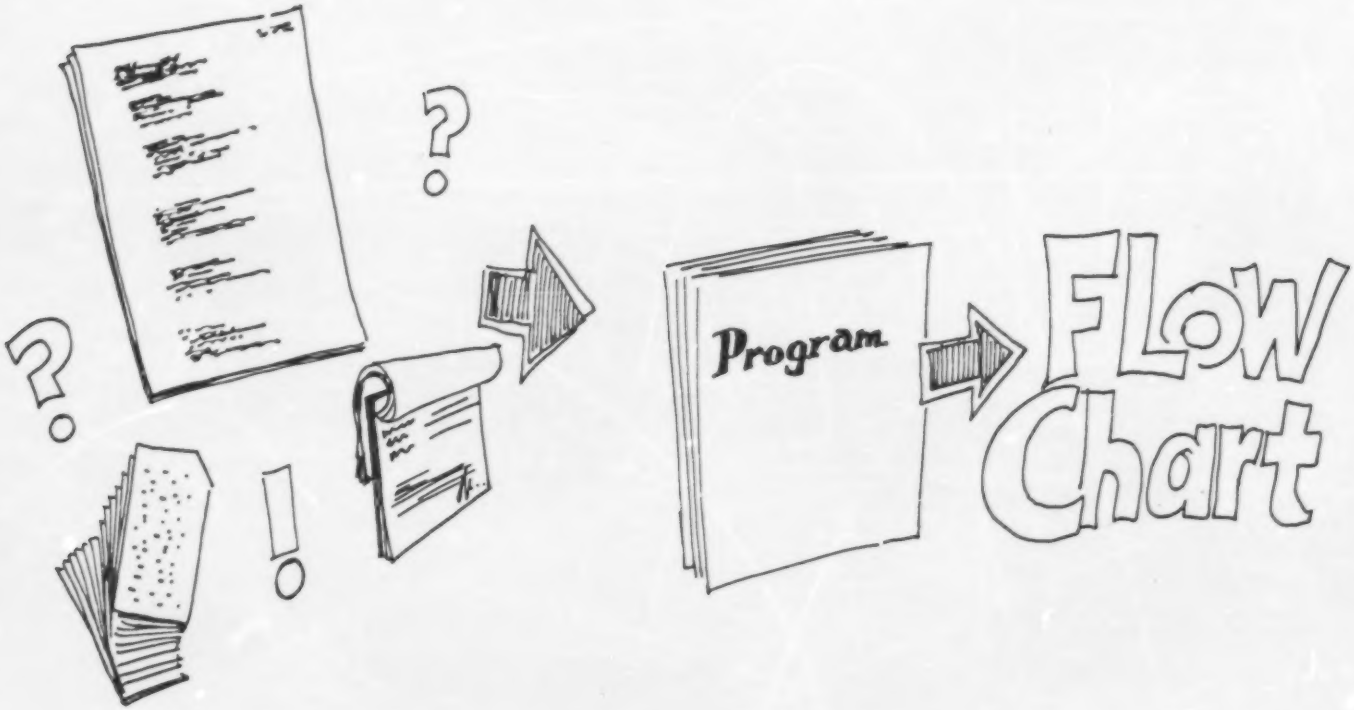

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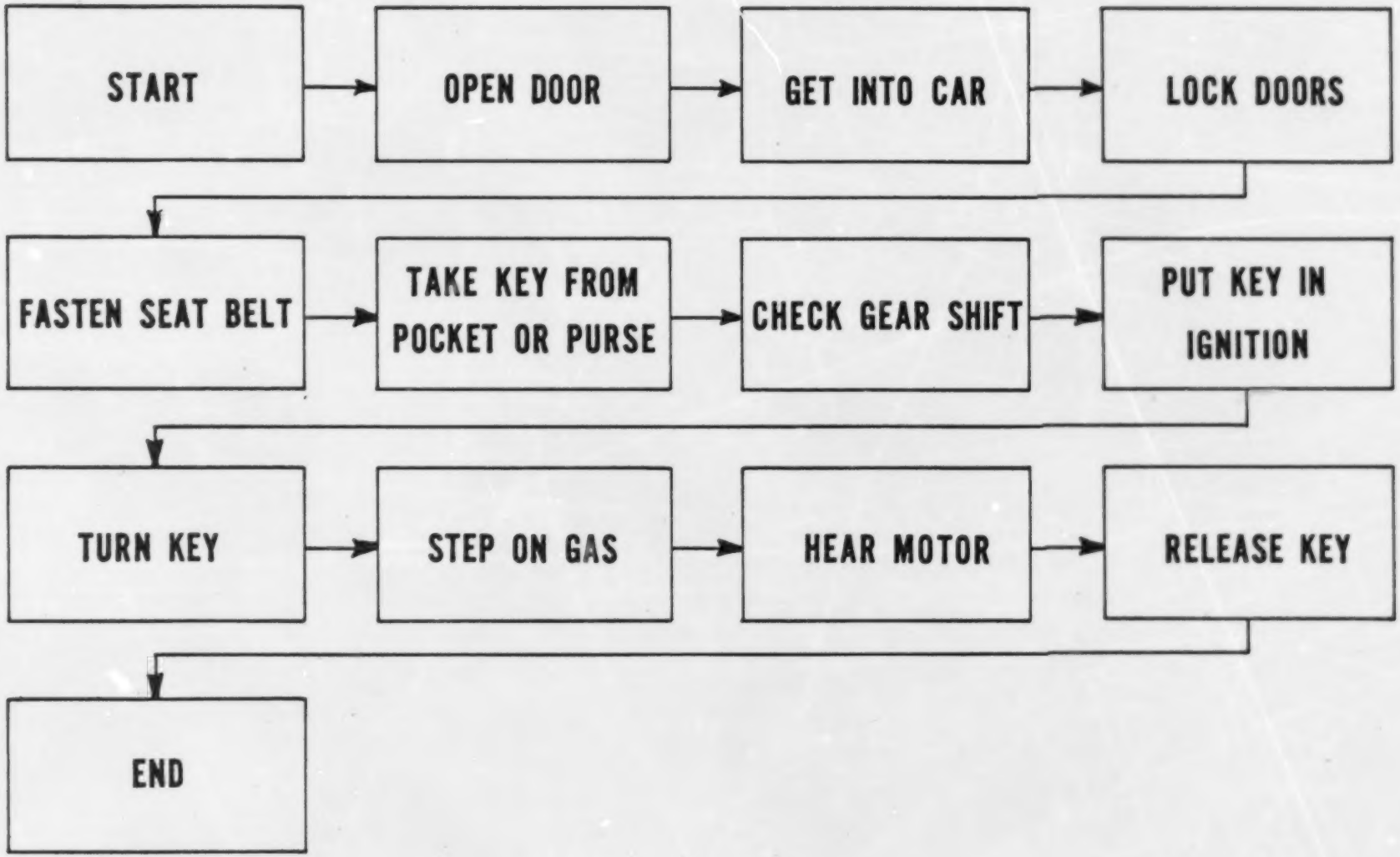
Transparency No. 13

STARTING A CAR



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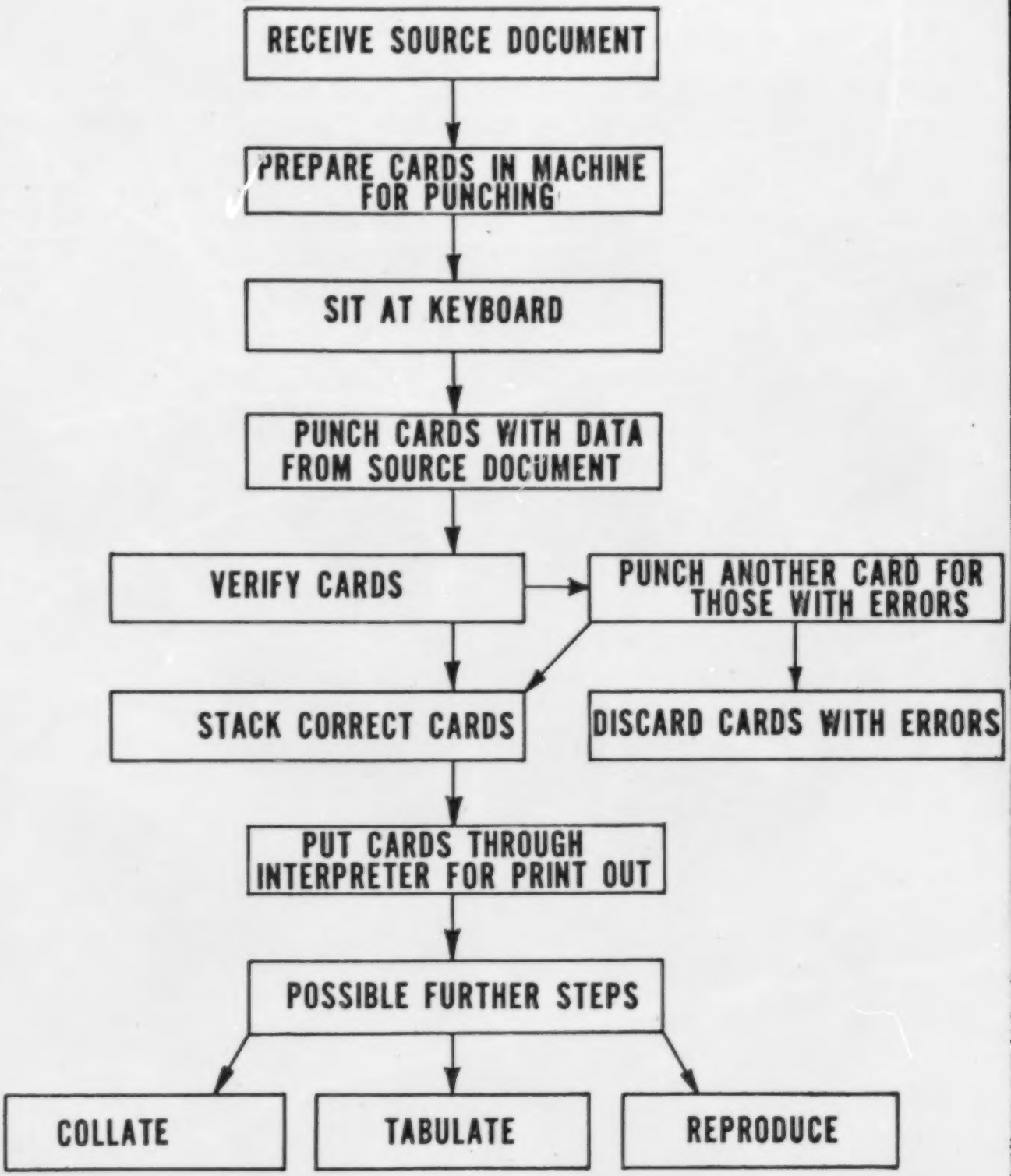
KEYPUNCH



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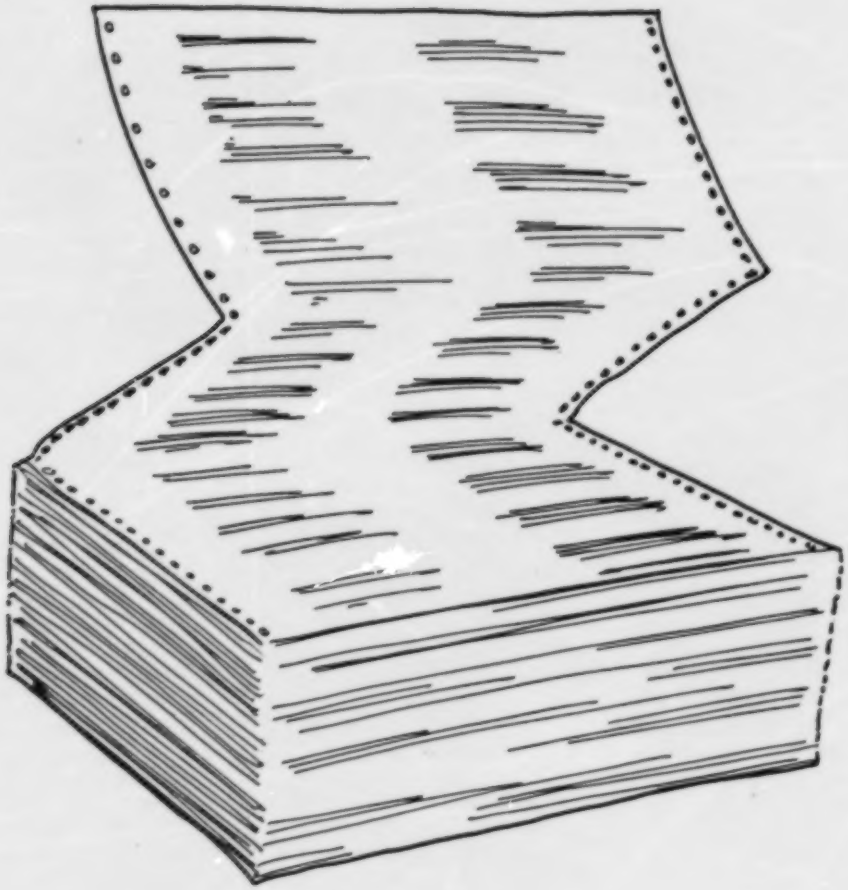

COLLATOR

VERIFIER OPERATOR

SORTER OPERATOR

KEYPUNCH OPERATOR

INTERPRETER

TABULATOR

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Transparency No. 17

OFFICE OCCUPATIONS - KEYPUNCH

(Script for Transparencies)

TRANSPARENCY 1 – This keyboard is similar to a typewriter. Instead of typing the letters, the machine will punch rectangular holes in a card to record information. Some keypunch machines also print the punched data at the top of the card.

TRANSPARENCY 2 – This card is the most commonly used to record information. The keypunch operator reads the information from a source document and punches the data onto the card. The card has only 80 spaces across; frequently, the information must be coded or abbreviated to fit in 80 spaces.

TRANSPARENCY 3 – Some cards have different shapes and punch positions, but they all require machines that are designed for them.

TRANSPARENCY 4 – The keyboard of a keypunch machine is similar to the keyboard on a typewriter. Blank cards are inserted on one side and each card is punched with the information on the source document. Punched cards are stacked on the opposite side of the machine.

TRANSPARENCY 5 – After the information has been recorded, the cards are again put through a machine to be sure they are correctly punched. This machine looks like the keypunch machine and is called a verifier. The operator enters the same information and the verifier checks the accuracy of the punched data – but does not punch any new holes.

TRANSPARENCY 6 – If an error has been made, the verifier notches the card at the top of the errored column. This card will be discarded after a new card is punched. If the card is correct, a punch is made on the side of the card.

TRANSPARENCY 7 – This card has the entire alphabet punched. Notice the zones at the left side. Two punches are required to record a letter of the alphabet. This card also has numbers punched. Only one punch is required for numbers.

TRANSPARENCY 8 – Any data that is punched on the card may now be used in various ways. Machines, called interpreters, are set to read the data from the cards and interpret the data in a printed report.

TRANSPARENCY 9 – Using a collator, two sets of cards may be combined or even arranged correctly in numerical or alphabetical order. If the cards of students in a school had been separated into boys and girls, the collator puts the two sets back together in correct alphabetical order giving a file of all the students.

TRANSPARENCY 10 – This is a tabulator. Cards are fed into the machine showing the number of sales made by the clerks in a store. The tabulator may add the total sales, add each clerks sales, or print any desired information for which it has been programmed.

TRANSPARENCY 11 – Perhaps an additional set of cards is needed. This reproducer will duplicate the punched and verified cards. It will also reproduce a set of cards with only a selected part of the information.

CARE OF YOUR TRANSPARENCIES

These transparencies are produced by the offset printing method at the Vocational Education Media Center, Clemson University, Clemson, South Carolina. They are designed to be an aid to you in your teaching program. Although they are developed by economy techniques, they will last many years if you will care for them. Here are some suggestions we believe will help you in caring for them:

1. The transparencies have been dusted during the printing process. This dust may be washed off with a damp, soft cloth. Use water only. The dust can cause unsightly shadows on your projector. Dry the transparencies gently with a cloth, paper towel, or by spreading them out on a table until dry.

2. Please do not write on the transparency with a grease or wax pencil. If you wish to emphasize something, place a clear sheet of plastic over the transparency and write on the clear sheet. This will prevent possible abrasion to the transparency.

3. Store this folder in a good filing cabinet. If you wish to mount them you may. Overlays should be hinged together to start with.

4. Store in a dry place.

5. Yes, the plastic will bend, tear and scratch – if you let it be abused. Cared for properly, it will last for many years.

6. To separate the transparency from the slip sheet, grasp the transparency in one hand and the slip sheet in the other, near the glue strip, and carefully pull the two apart.

OFFICE OCCUPATIONS – KEYPUNCH

Kit No. 38

STUDENT
LEARNING ACTIVITY GUIDE

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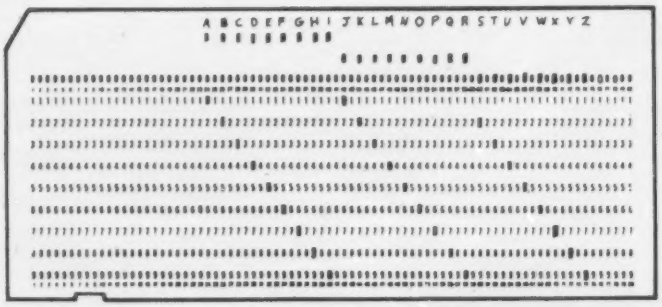
1978

INTRODUCTION

This activity will involve a manual simulation of the workings of keypunch machines. A keypunch machine is very similar to an electric typewriter. Instead of printing letters, the machine is used to punch holes in a card. Although these cards are made by several companies, all cards look basically like this:



As you will learn in this activity, the punched card can contain much information.

After the keypunch operator puts the information on the card by type-punching holes, the cards are placed in a separate verifier machine. On certain models of keypunch machines, the verifying operator again enters the same information on the keyboard and no new holes are punched. If an error is discovered, the card will be notched at the top of the column.

When the cards have been punched and verified, the information needed for a particular report can be obtained by placing the cards into a sorter unit. The sorter selects the needed information from a mixed stack of cards. This process is called grouping or segregating. The sorter also arranges cards alphabetically or numerically. The collator can then arrange two groups of cards into one. These cards are then fed into a tabulating machine, and the selected information is printed one line at a time on a columnar report form. The information can then be used for the desired purpose. Basic punched-card operations are usually used for analysis, posting, and statistical tabulation.

GOALS

The student will:

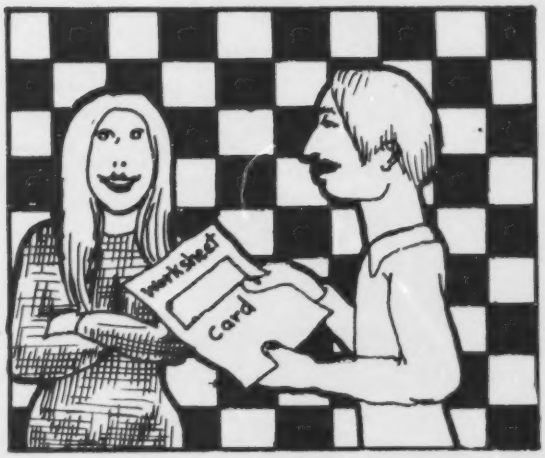
1. Gain an understanding of functions of the machinery used in punch-card operations
2. Acquire knowledge of sequence of process of storing information on punch cards
3. Understand the importance of recording information correctly
4. Have knowledge of skills involved in punching, sorting, and reading cards

DIRECTIONS

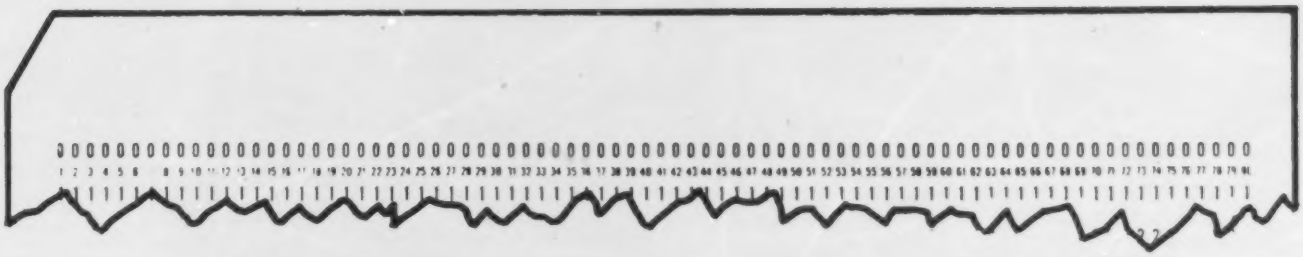
Read the instructional objective to understand plan, action, and final results you are to achieve. Follow the directions for each step carefully. Use the Checkpoint to see if you have correctly reached your objective. If you have reached the desired results, go on to the next objective. If your results are not satisfactory, go back and redo the steps.

Instructional Objective 1

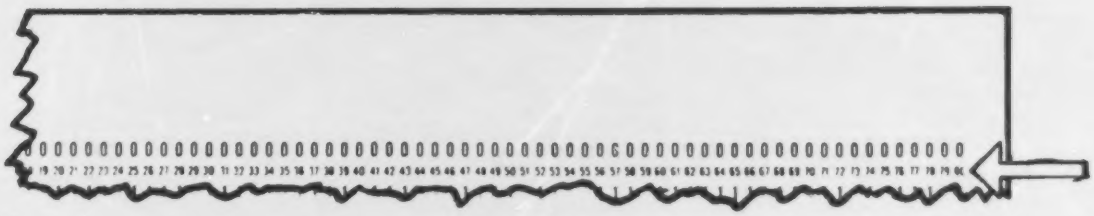
Given a facsimile of a punch card, the student will identify vertical columns.



STEP 1 — Look at the illustration of the unpunched card on your work sheet.



STEP 2 — Find the very small numbers at the top (beneath the zeros) of the card.



STEP 3 — Draw an arrow to point to the small numbers at the top.

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STEP 4 — Find the very small numbers at the bottom of the card.

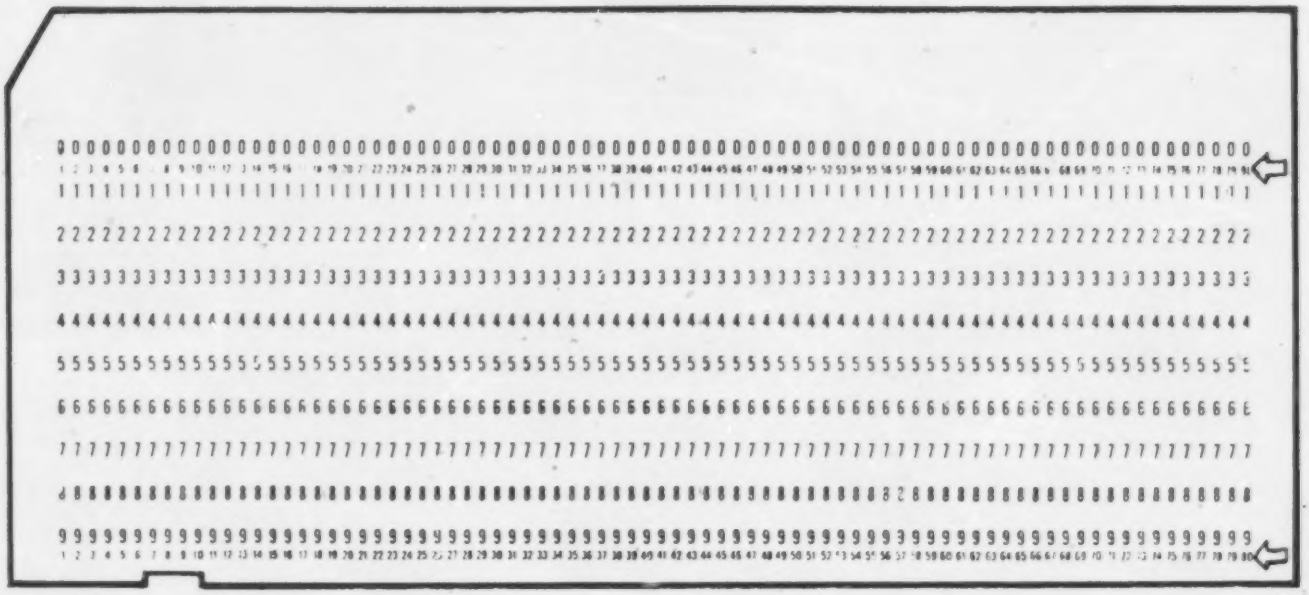
STEP 5 — Draw an arrow to point to these numbers at the bottom.

Check Point

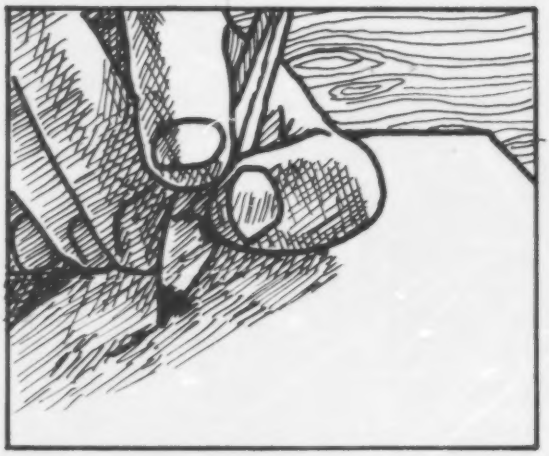
Are your arrows the same as the illustration?

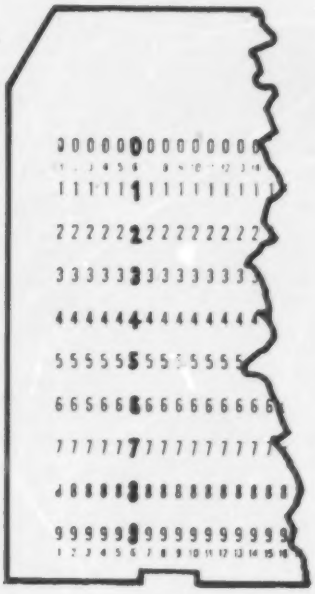
Instructional Objective II

Given a blank card with the numbers on it, the student will identify vertical columns, the numbers in each column, the rows in each vertical column.



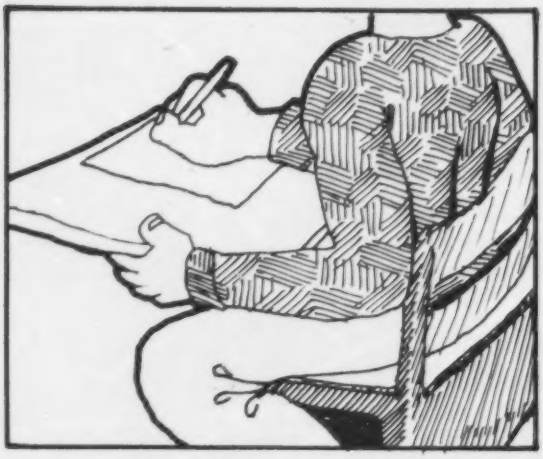
STEP 1 — Locate the small numbers that identify the vertical columns.



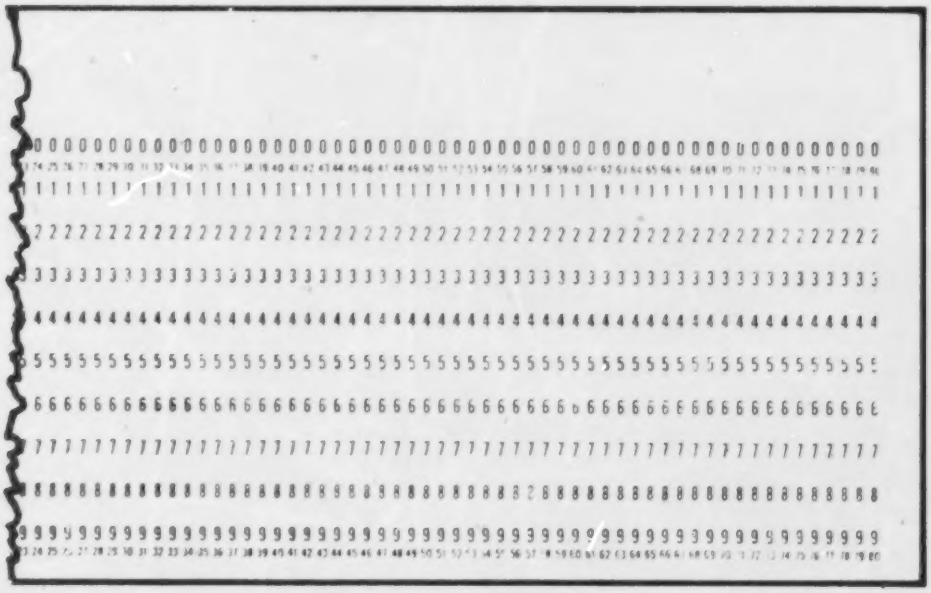


STEP 2 — Write the number of vertical columns on the card in the correct place on your work sheet.

STEP 3 — Look at the columns between the top and bottom numbers.



STEP 4 — Write the numbers that appear in each column in the correct blank.



STEP 5 — Count each number in the vertical column. This will be top to bottom, beginning with zero.

STEP 6 — Write the number of rows in each column.

Check Point

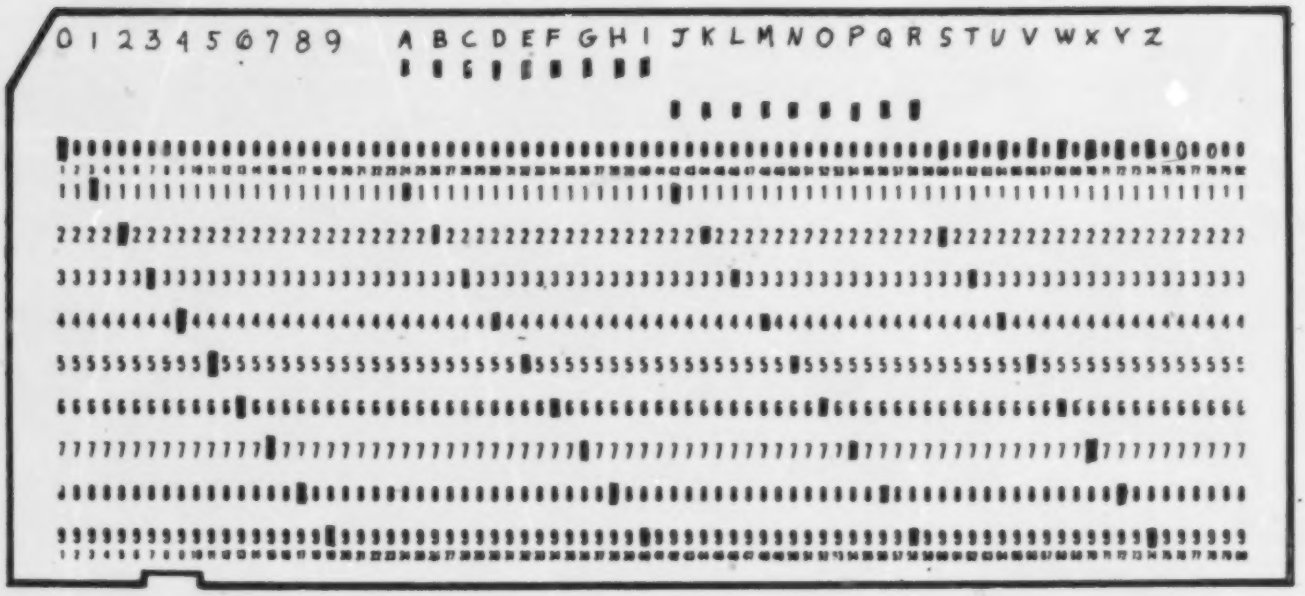
Keep in mind now that each of the 80 columns on the card can be used for punching a hole or holes for a designated letter, symbol, or number. Check your answers on the work sheet with those below.

STEP 2: 80 STEP 4: 1, 2, 3, 4, 5, 6, 7, 8, 9 STEP 6: 10.

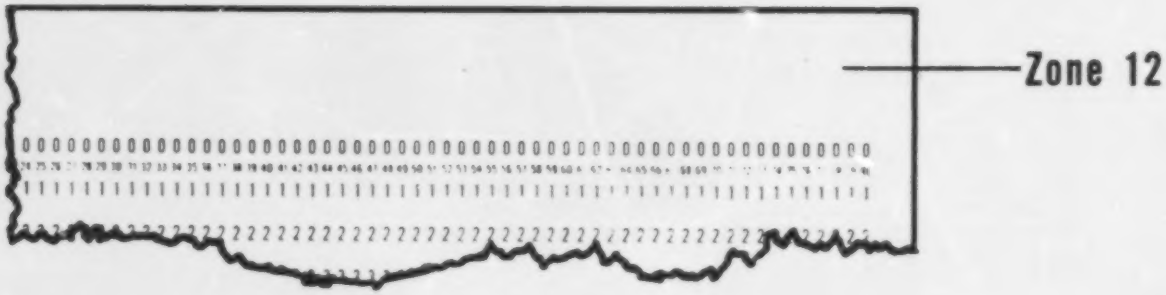
If any of your answers is not correct, check with your instructor.

Instructional Objective III

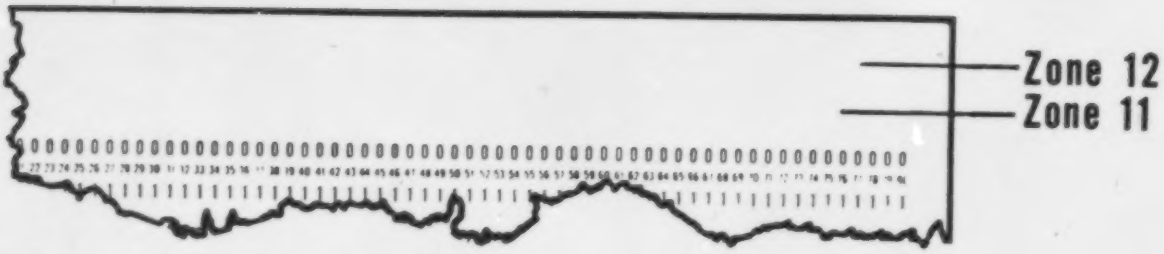
Given a facsimile of a punched card showing the numbers punched, the student will correctly follow steps to identify the rows and zones.



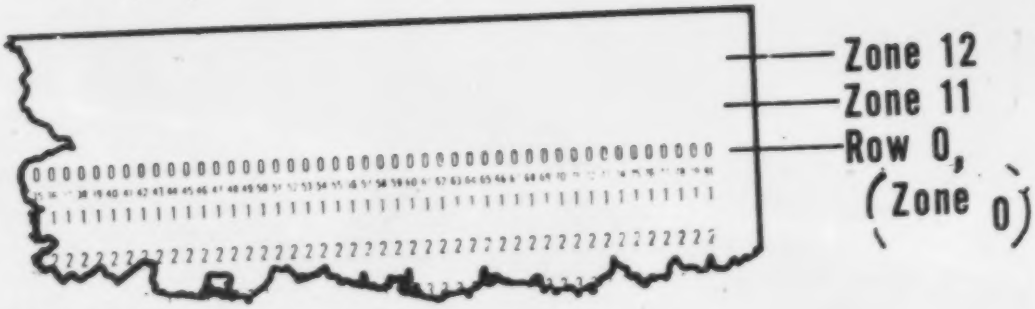
STEP 1 — Study the card showing the position of the alphabet and numbers.



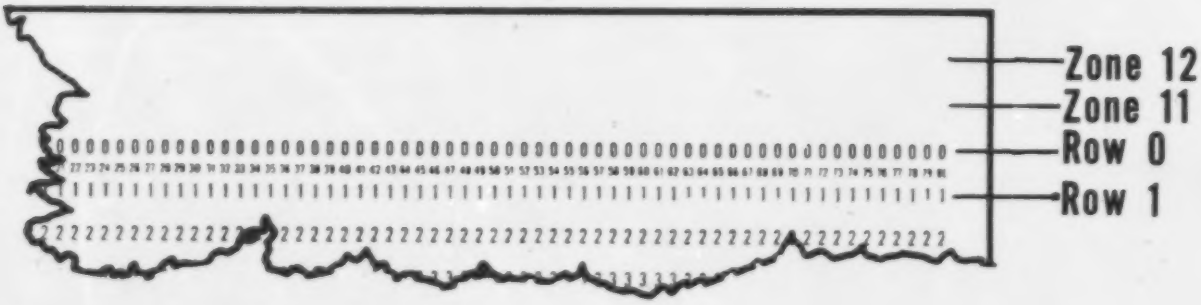
STEP 2 — On your card, mark the 12 zone. Note that this is actually the 12 row on the card.



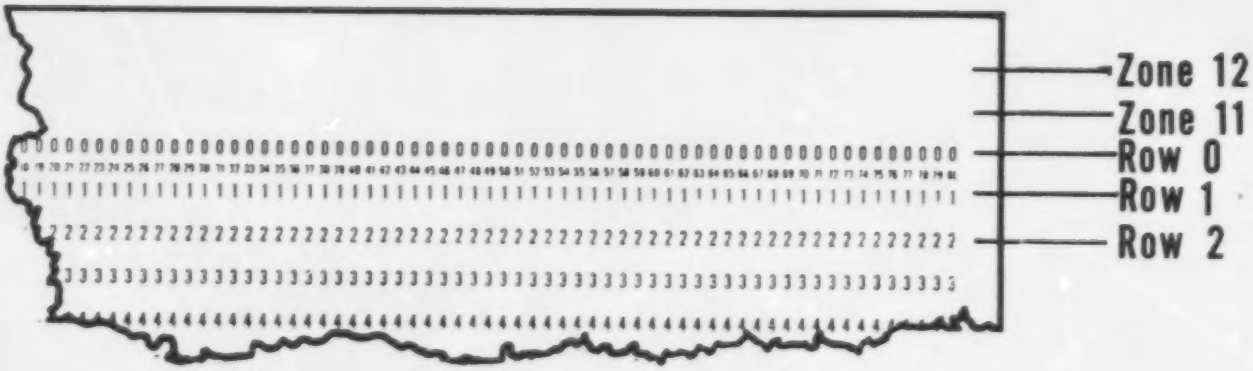
STEP 3 – On your card, mark the 11 zone. Note that this is actually the 11 row on the card.



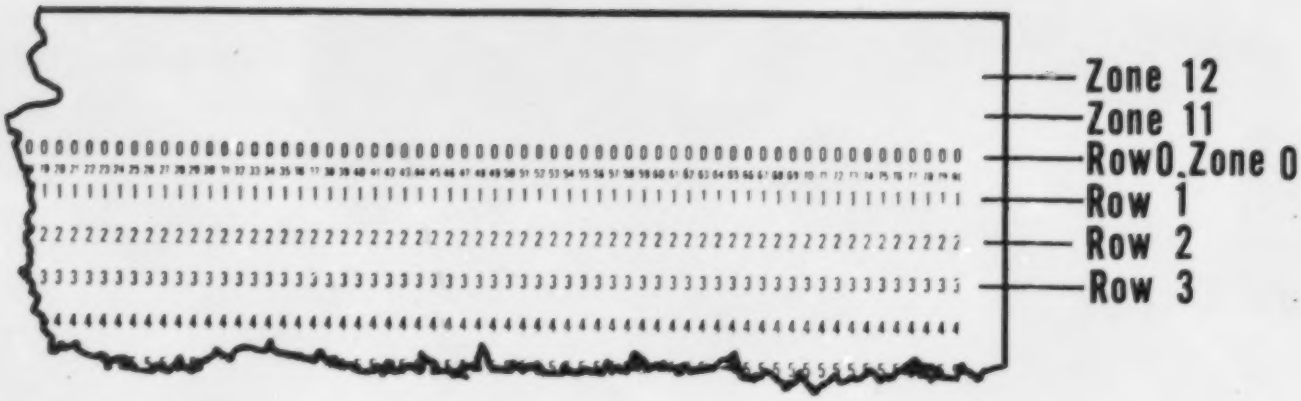
STEP 4 – On your card, mark the 0 row.



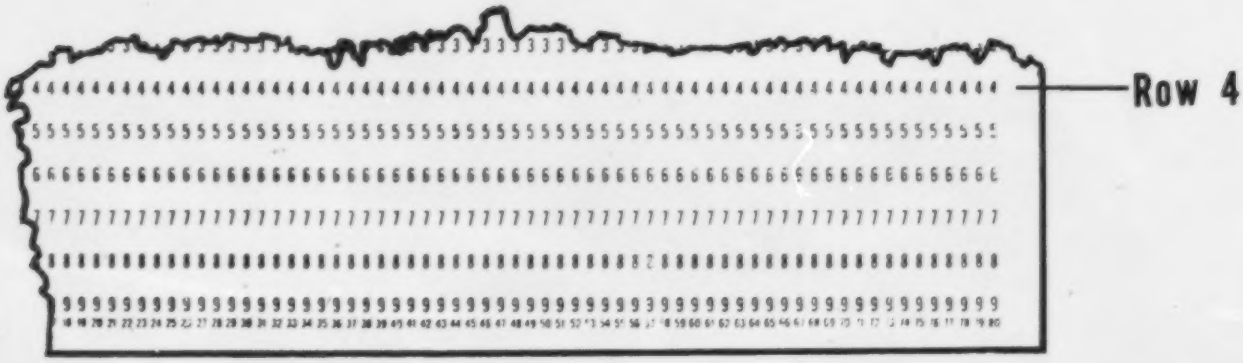
STEP 5 – On your card, mark the 1 row.



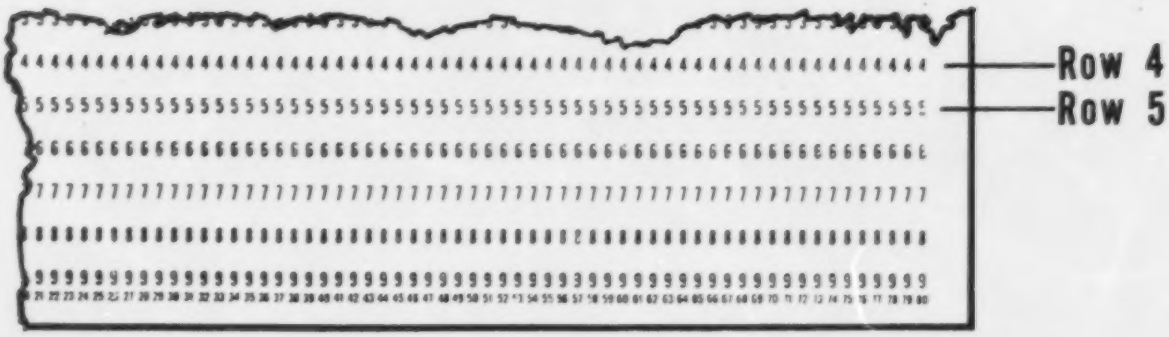
STEP 6 – On your card, mark the 2 row.



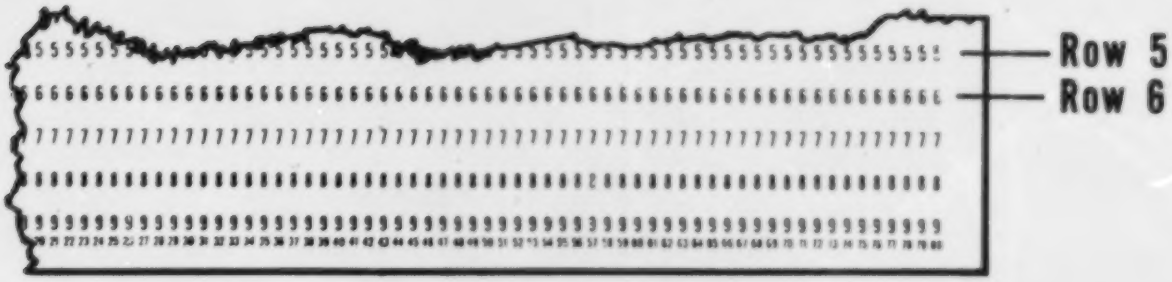
STEP 7 – On your card, mark the 3 row.



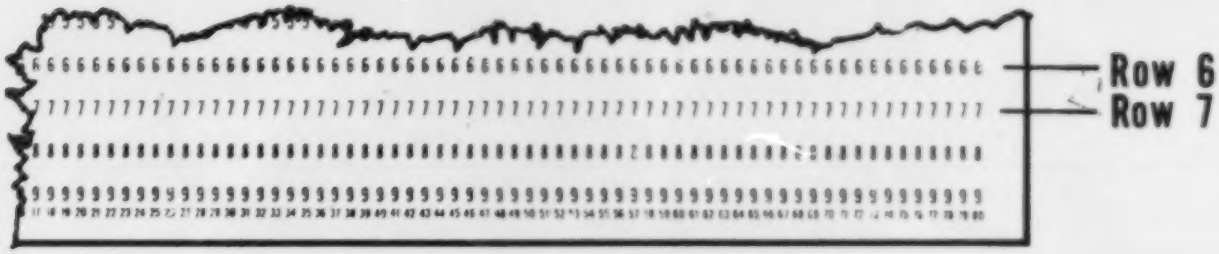
STEP 8 – On your card, mark the 4 row.



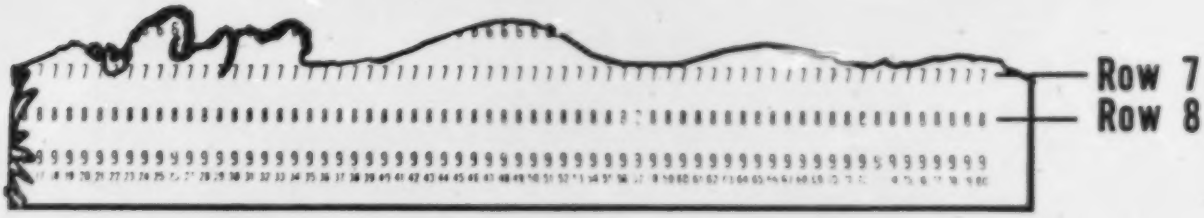
STEP 9 – On your card, mark the 5 row.



STEP 10 – On your card, mark the 6 row.

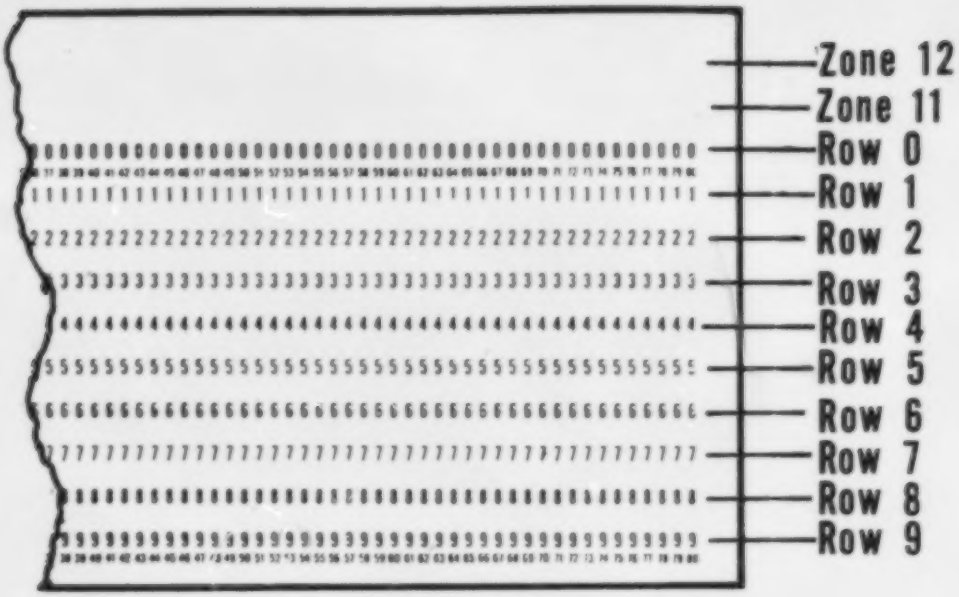


STEP 11 – On your card, mark the 7 row.



STEP 12 – On your card, mark the 8 row.

STEP 13 – On your card, mark the 9 row.

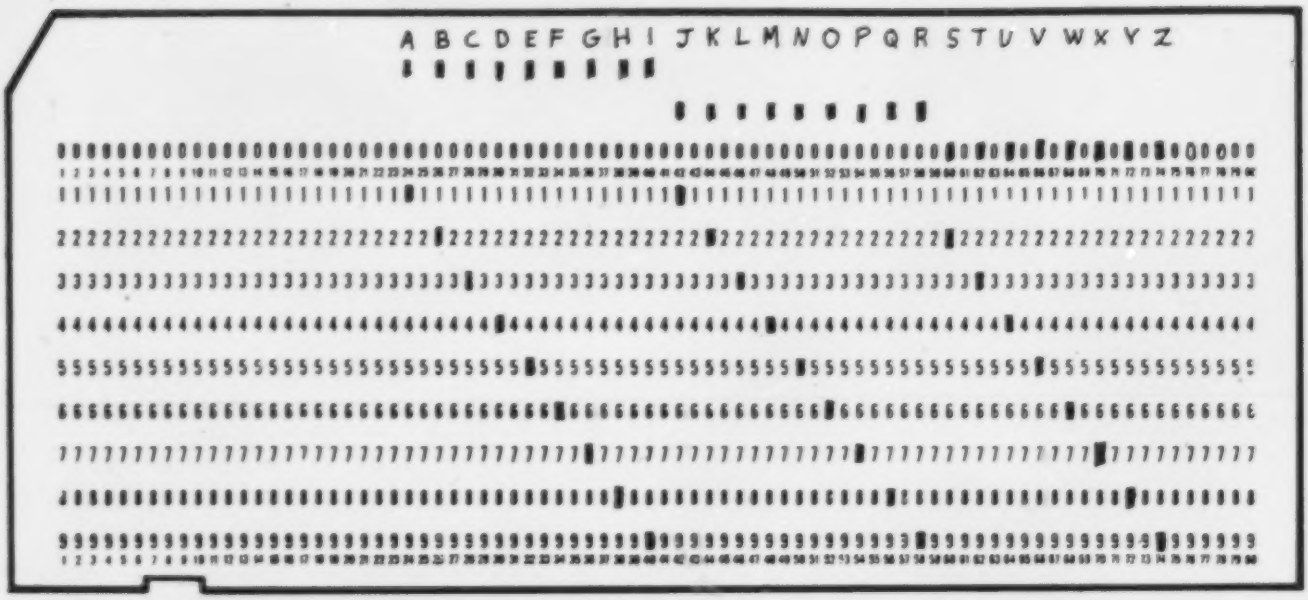


Check Point

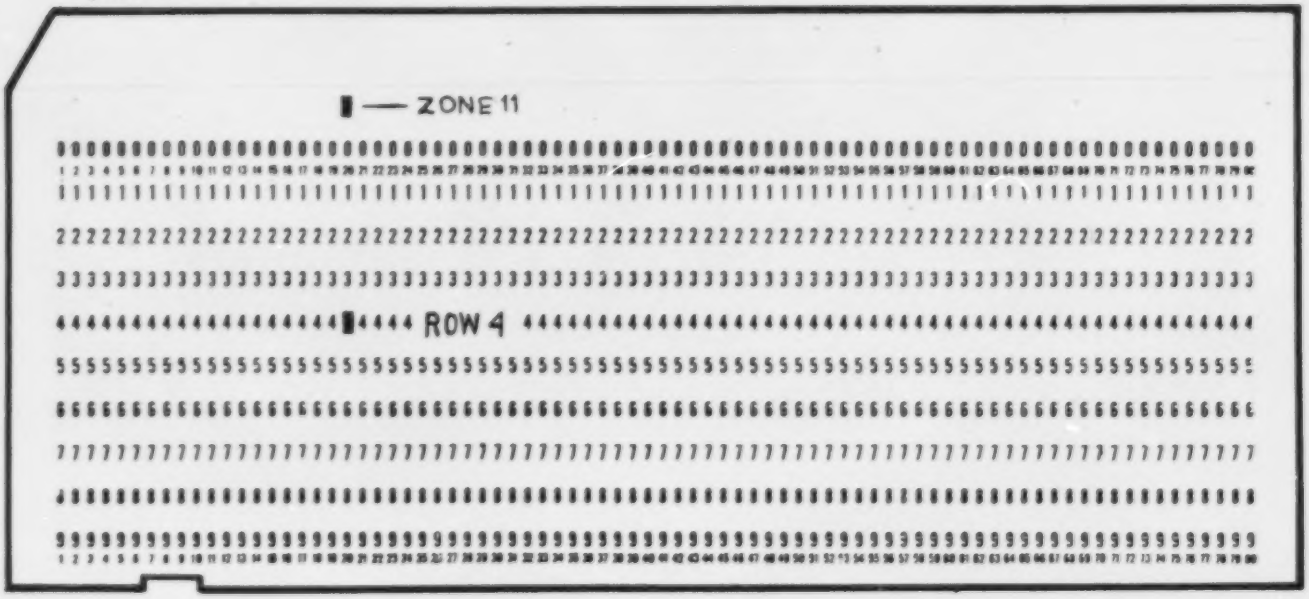
Put your card near the illustration and check to see that you have correctly marked the rows and zones.

Instructional Objective IV

Given a punched card containing the alphabet, the student will duplicate the punching of the entire alphabet.

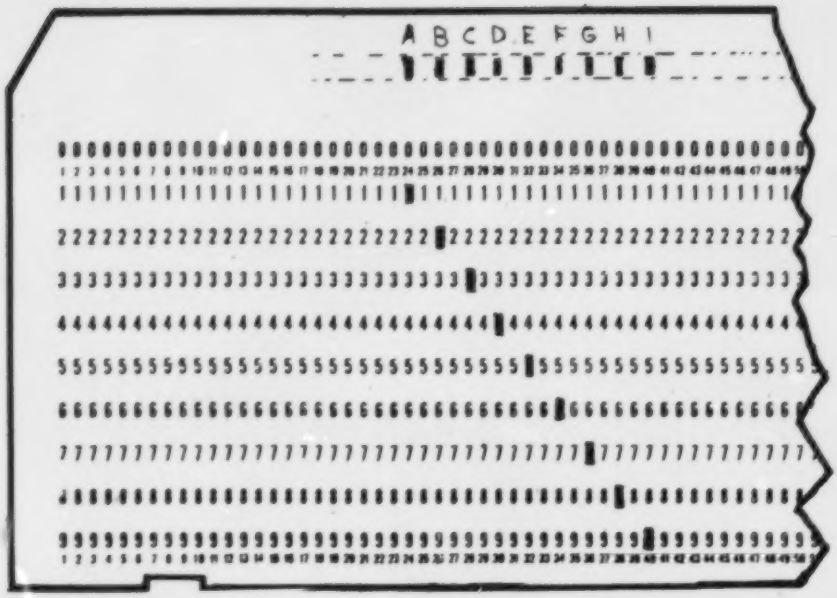


STEP 1 – Study the punched card to see the position of punches for the letters of the alphabet.

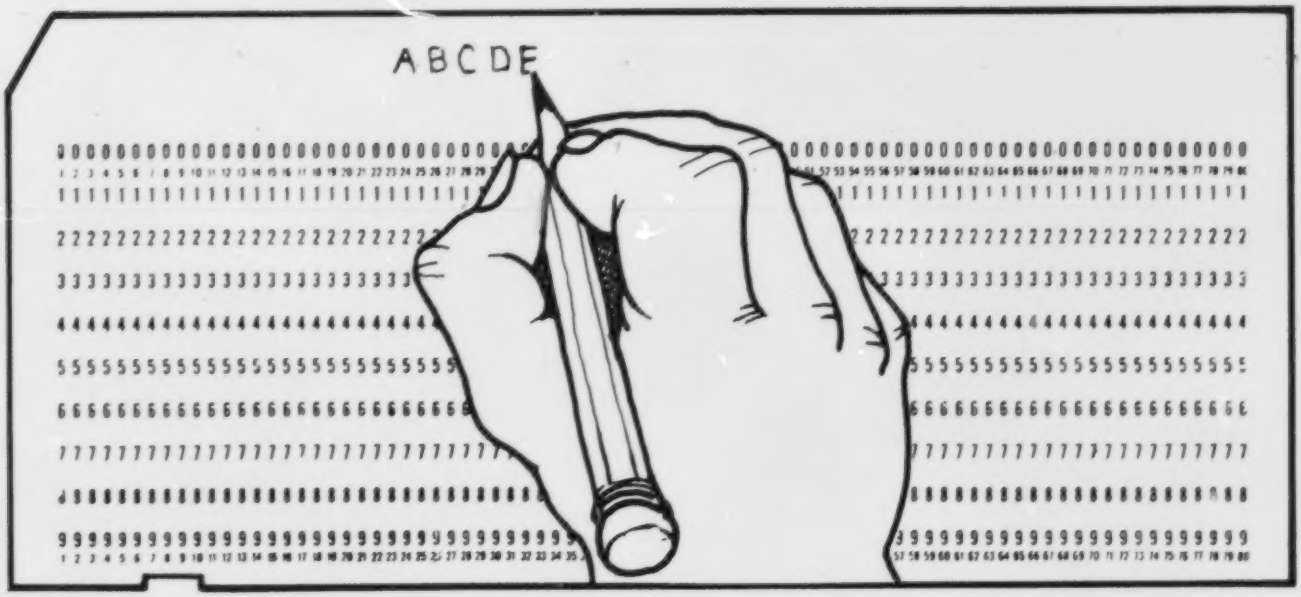


STEP 2 – Note that TWO punches are needed for each letter of the alphabet. One punch in the 11, 12, or 0 zone and one punch in a number row.

THE LETTER "M"



STEP 3 — Begin with A and mark the alphabet on the 12 zone line (you may draw a light line across the card so the punches will be even). Letters A, B, C, D, E, F, G, H, I should be printed neatly at the top.



STEP 3A — Print the letters for zone 12 neatly at the top of the card over the correct vertical column.

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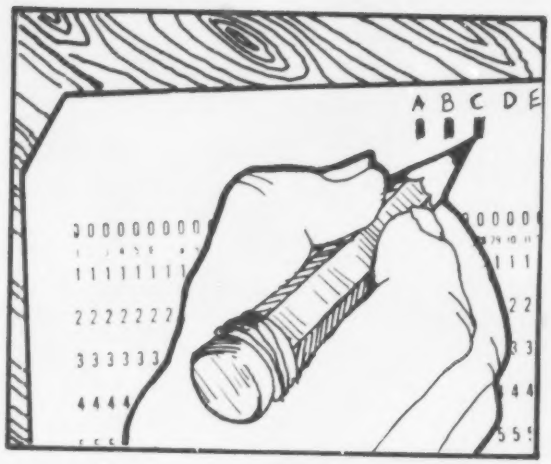
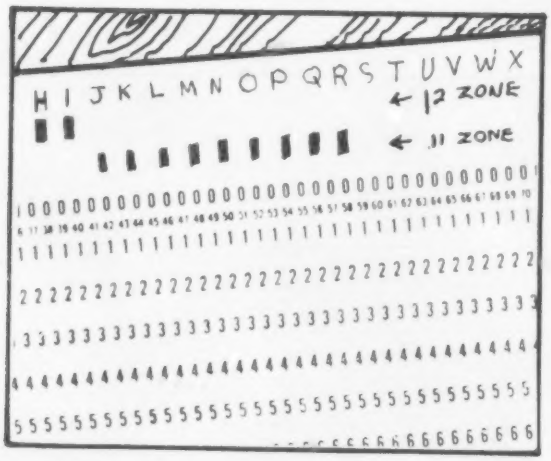
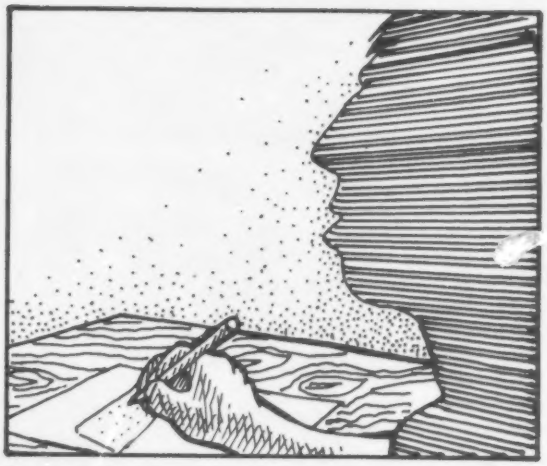


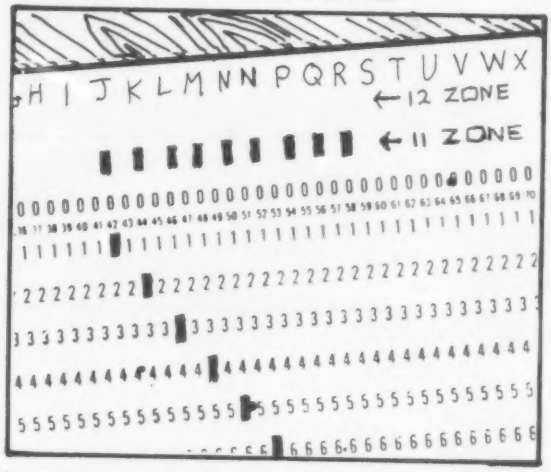
STEP 3B — Carefully darken an area similar to the hole punched on row 12 zone for each of these three letters. Then mark the number in the rows. Example: A is No. 1; D is No. 4.



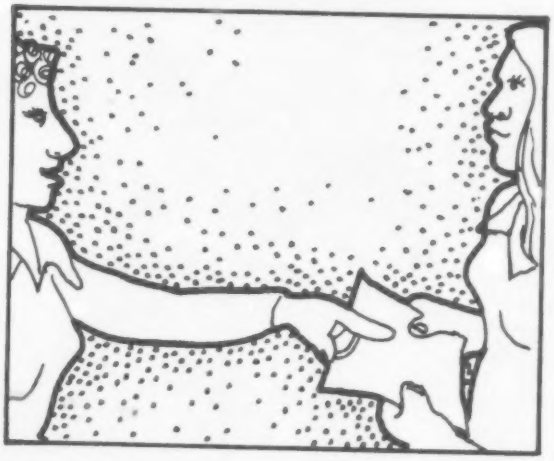
STEP 4 — Study the alphabet letters J, K, L, M, N, O, P, Q, R and note that they are marked in the 11 zone.



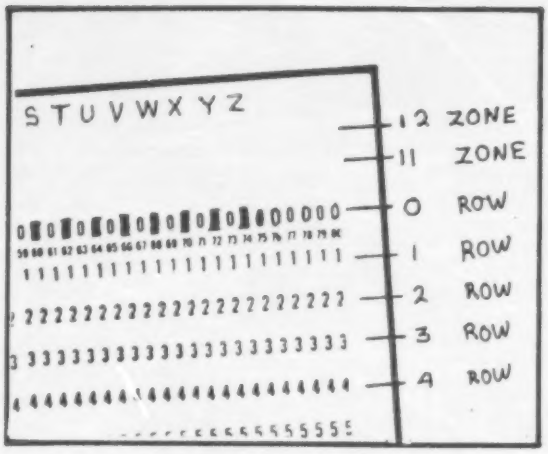
STEP 4A — Carefully print the letters J, K, L, M, N, O, P, Q, R at the top of the card beginning over vertical column 42.



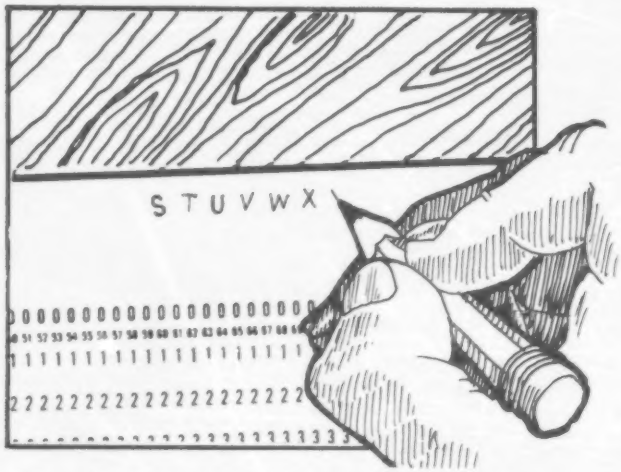
STEP 4B — Mark the 11 zone for each of the letters.



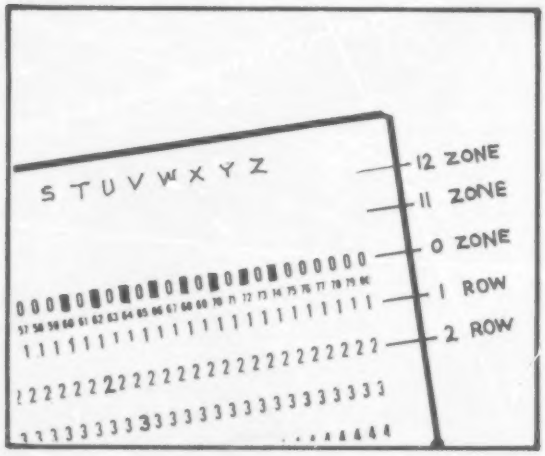
STEP 4C — Mark the correct number in each row for the letter. Begin with J.



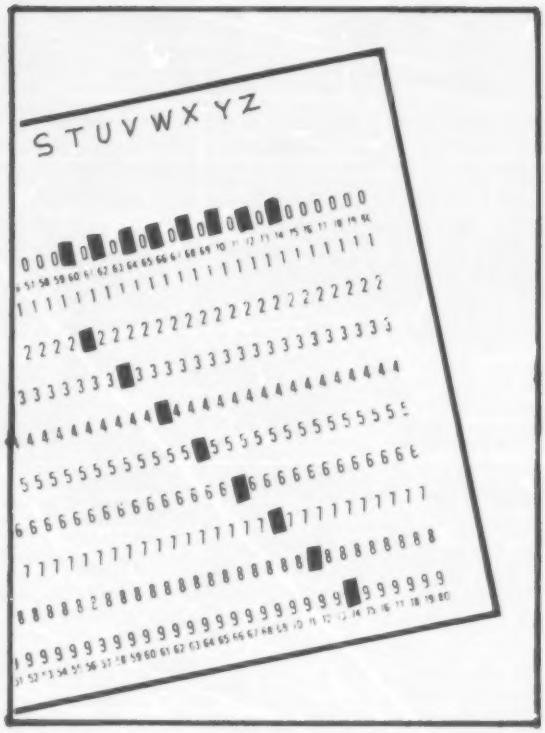
STEP 5 – Study the alphabet letters S, T, U, V, W, X, Y, Z and note that they are marked in the 0 zone.



STEP 5A – Carefully print the letters S, T, U, V, W, X, Y, Z at the top of the card beginning over vertical column 60.



STEP 5B – Mark the 0 zone for each of the letters.



STEP 5C – Mark the correct number in each row for the letter. Begin with S.

Check Point

Look at your card and check the row numbers you have punched. Be sure the numbers are the same as the illustration.

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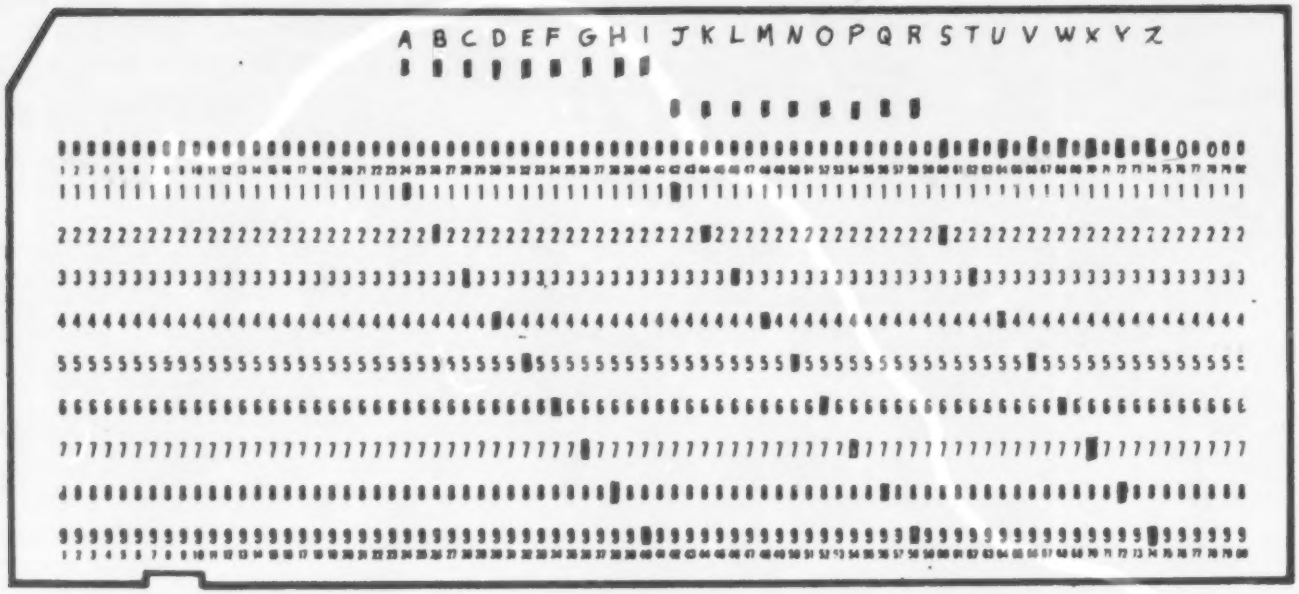
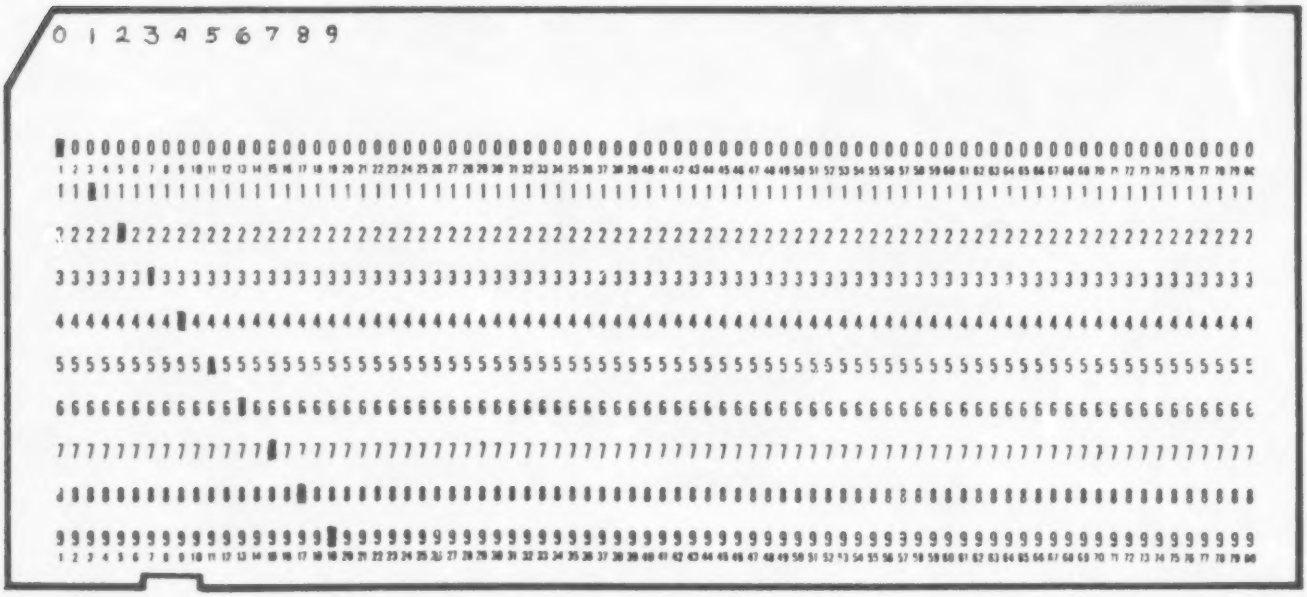
Instructional Objective V

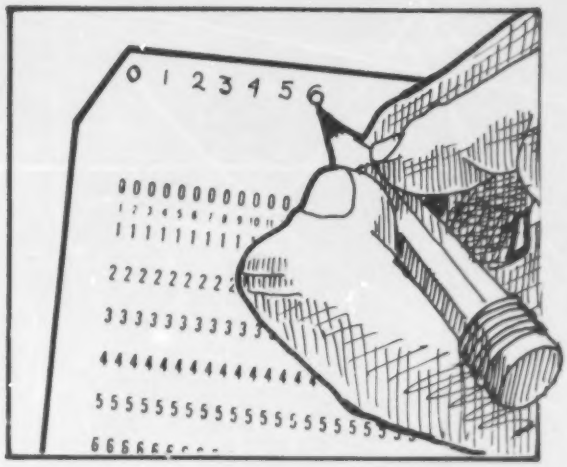
Given a card with the numbers 0-9, the student will punch his/her card to match.



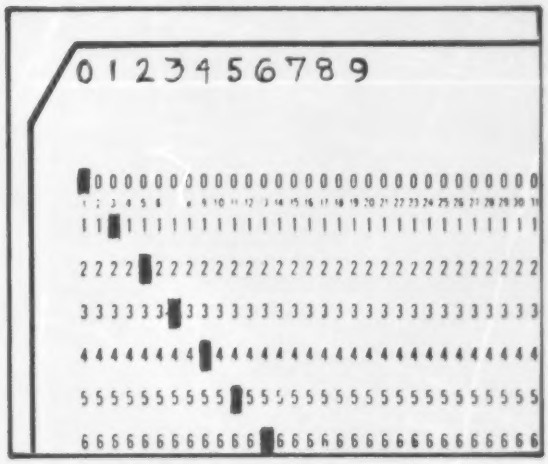
STEP 1 — Study the position of the numbers.



STEP 2 — Print neatly the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 over the columns.



STEP 3 — Beginning with the 0 zone and going one step down to the correct number, mark each number.

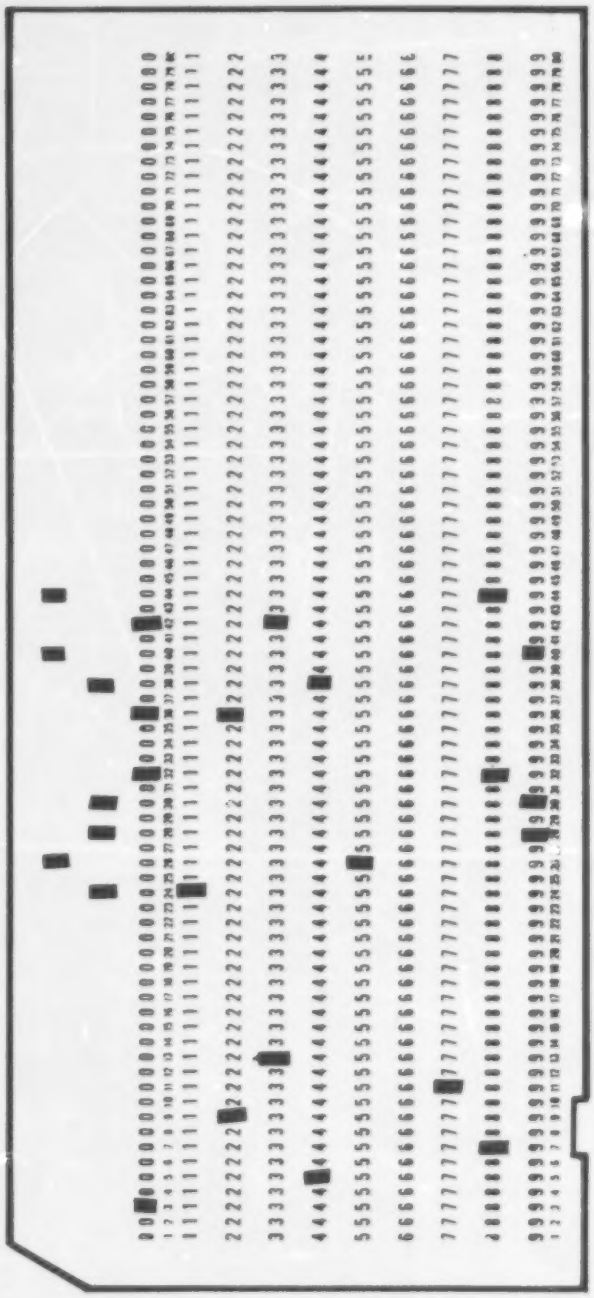


Check Point

Carefully check to see that numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are marked in those columns on the correct row. Compare your card with the illustration.

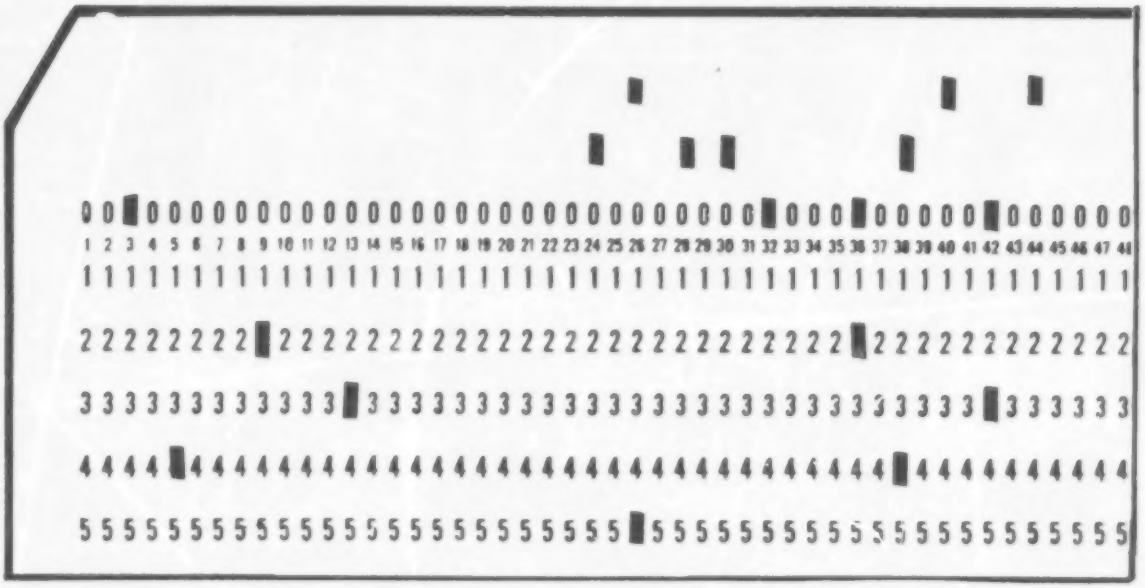
Instructional Objective VI

Given a punched card, the student will read and record the information on it.



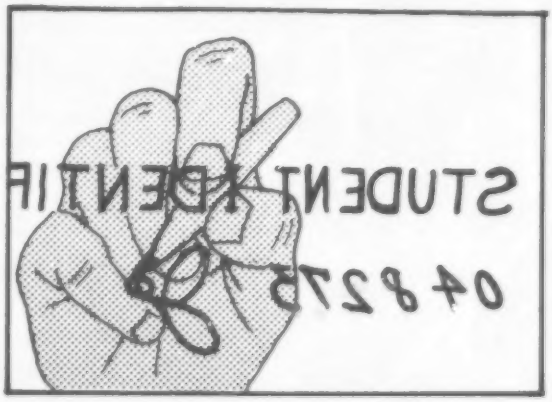
STEP 1 — In the illustration you will see a card already punched.

STEP 2 – The card used the same code as the one you have previously punched. Refer to your coded card when needed (number and alphabet cards).



STEP 3 – The information recorded is the identification number and name of a student.

STEP 4 – Read the numbers and record on the work sheet under the area marked "STUDENT IDENTIFICATION."



STEP 5 — Read the name and record on the work sheet under the area marked "NAME."

Check Point

Ask your instructor to check the number and name to see if you have correctly identified the student.

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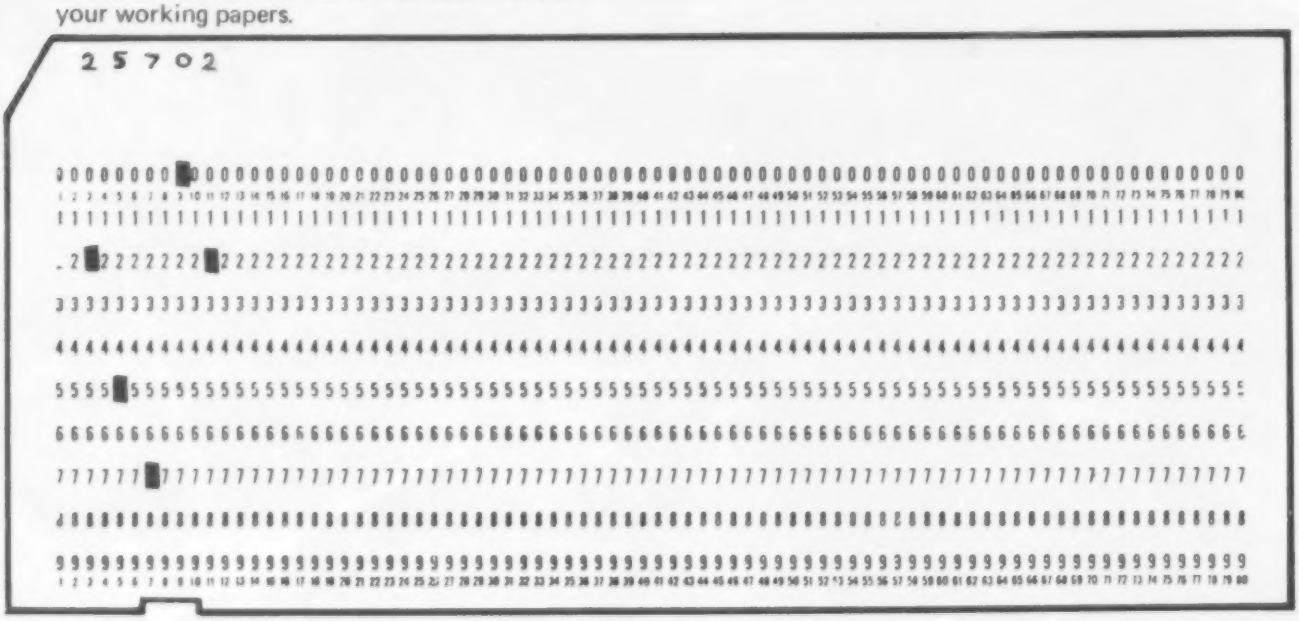
Instructional Objective VII

Given a source document, the student will "punch" a set of four cards with student numbers and names.

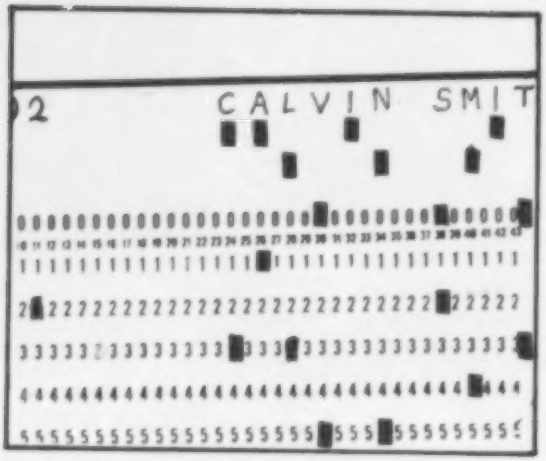
SOURCE DOCUMENT TO PUNCH A SET OF FOUR CARDS

Identification No.	Student's Name:
25702	Calvin Smith
44603	Jane Davis
29404	Jerome Brown
48703	Anne Watson

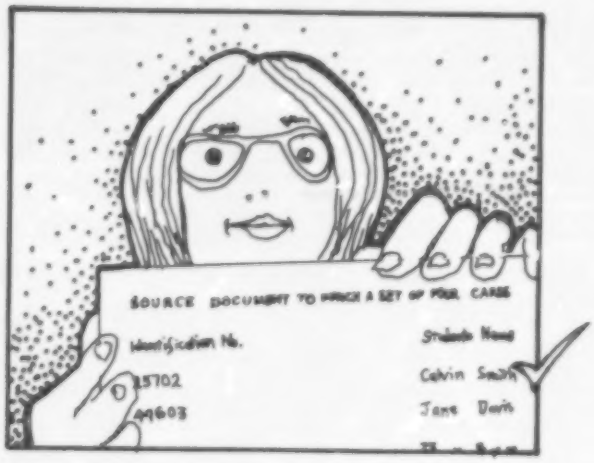
STEP 1 — Refer to the source document in your working papers.



STEP 2 — On your first card, begin with the number and carefully mark the correct identification number. Start over Column 3. Skip a space between each number.



STEP 3 – Beginning in column 24, correctly mark the student's name. Remember that you must make two punches for a letter and only one for a number.

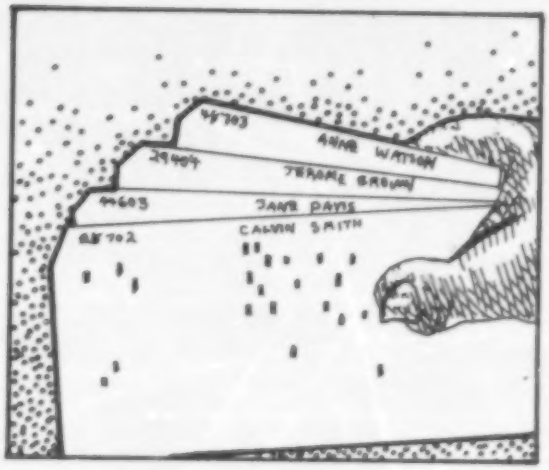


STEP 4 – After you complete card one, turn it face down on your desk and repeat the steps to mark the other three cards.

Check Point

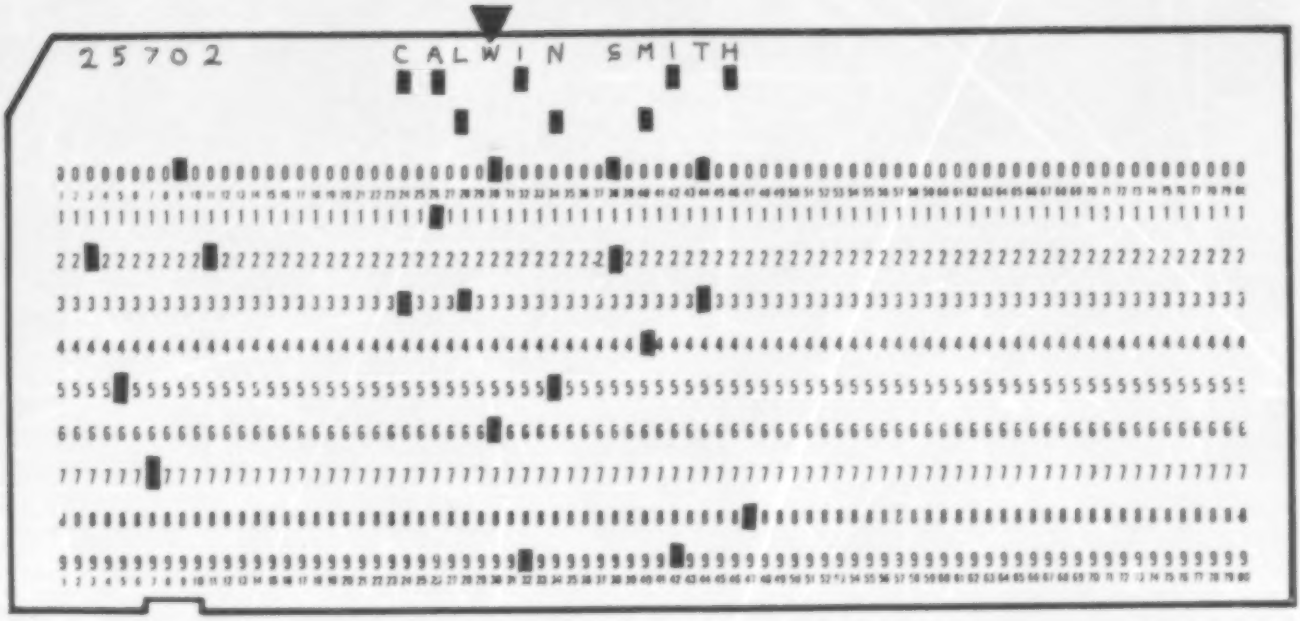
Pick up your cards and quickly check to see if the punches are in the correct place.

Instructional Objective VIII



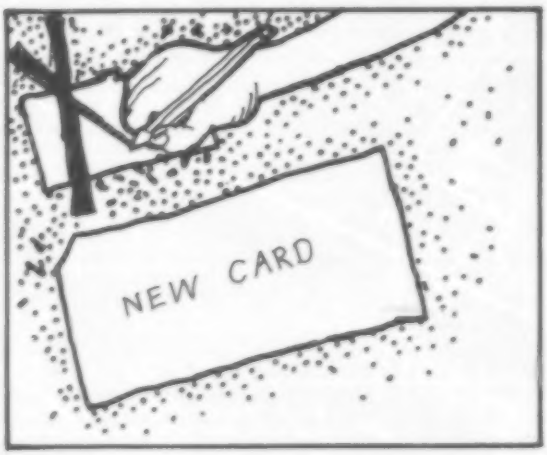
Given a set of four punched cards, the student will verify the punches.

STEP 1 – Ask your instructor which cards you should verify. If another student has cards ready, an exchange is desirable.



STEP 2 – Use the source document and follow the steps as you did for punching the cards. Verify the punches.

STEP 3 – If any error is found, place a mark above the column where the error is punched. DO NOT ERASE the error.



STEP 4 – Return the cards to the puncher and check again.

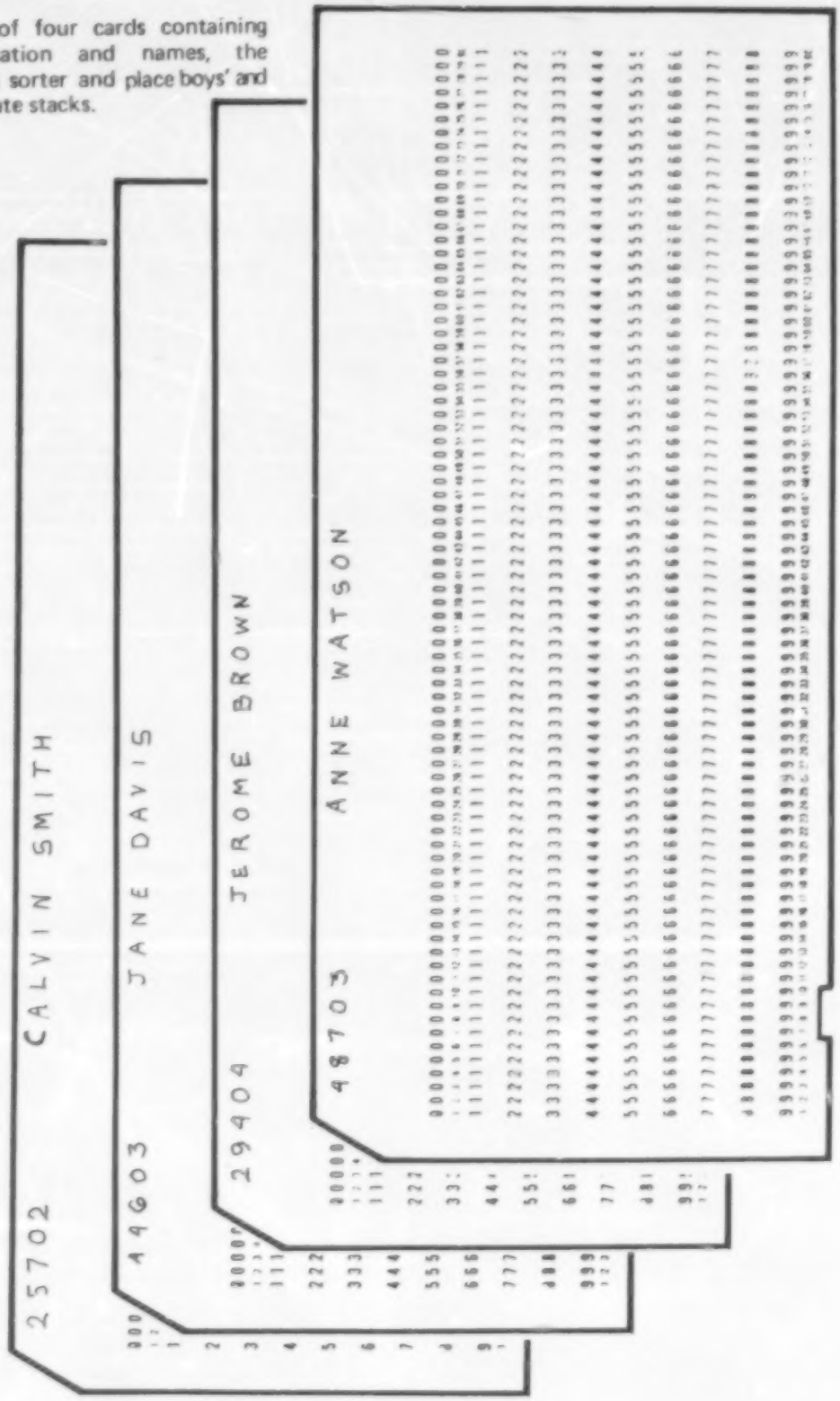
Check Point

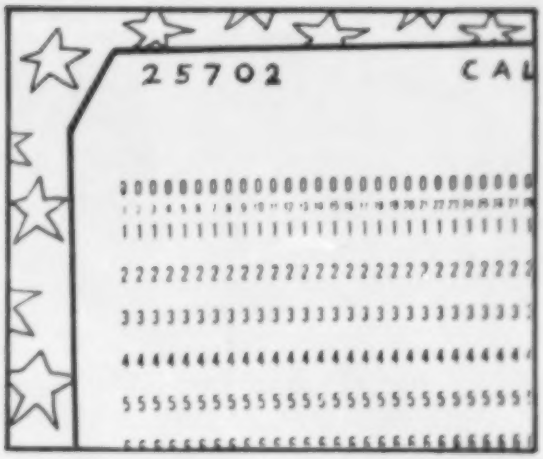
Go over cards and repunch another card for any with errors. Destroy the incorrect card.

Instructional Objective IX

Given a set of four cards containing students' identification and names, the student will act as sorter and place boys' and girls' cards in separate stacks.

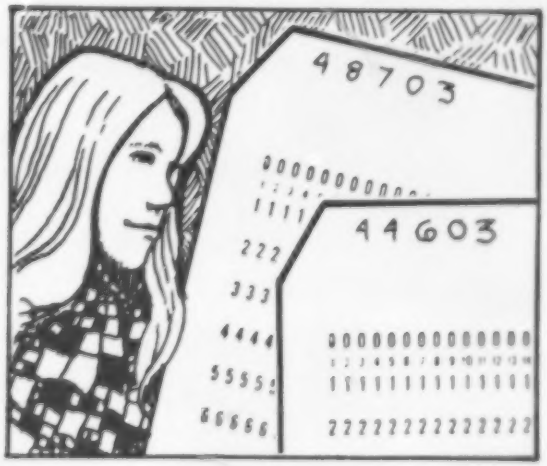
STEP 1 – Look at the four cards one at a time.





STEP 2 – Locate the beginning identification number.

STEP 3 – All identification numbers beginning with 2 are boys. Put these in a separate stack.



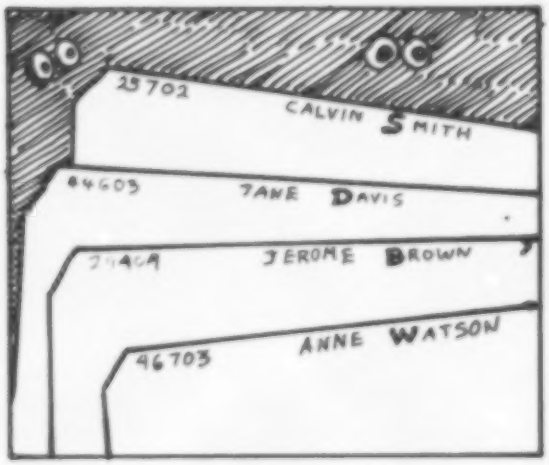
STEP 4 – Look at the remaining cards to see if the identification number begins with 4. All numbers beginning with 4 are girls.

Check Point

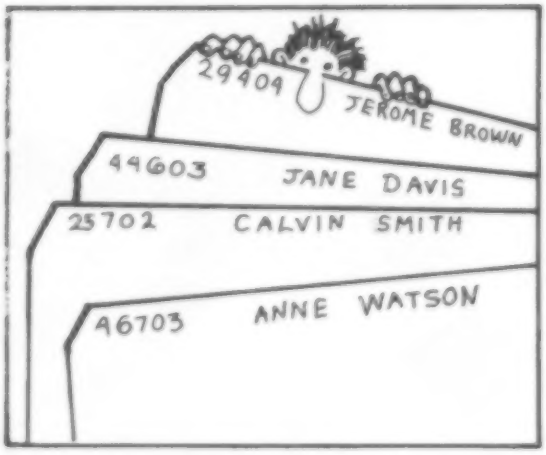
Ask your instructor to check your cards. Record the information about number of boys and girls requested on your work papers.

Instructional Objective X

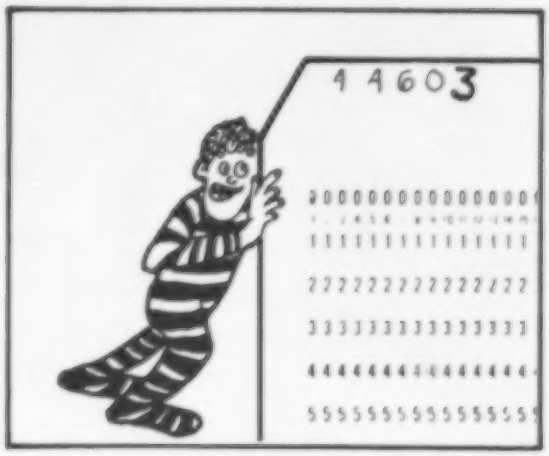
Given four cards, separated and sorted by boys and girls, the student will act as collator and alphabetize the cards by the intial of the last name.



STEP 1 – Look at the first letter of the last name.



STEP 2 – Act as the collator and place the cards in alphabetical order by the initial of the last name.



STEP 3 – Look again at the last names and write the last name only on the work sheet.

Check Point

As your instructor to check your list.

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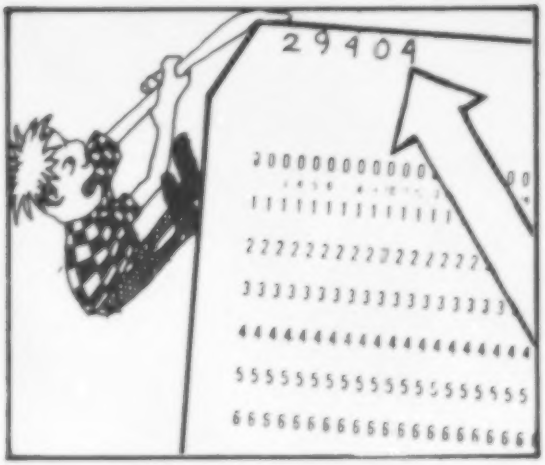
Instructional Objective XI

Given four cards with a numerical punch recording the number of hours the student will stay in school each day, the student will act as a tabulator and compute the total number of hours the students stay in school.



STEP 1 – The last digit of the identification number, which follows the zero in each case, is the student's number of hours spent in school each day. Locate this number.

STEP 2 – Record the number for each student on the requested form in your work sheets.

30 minutes typing
60 minutes in math
15 minutes eating lunch
45 minutes in music
60 minutes in history
+ 30 minutes writing

4 hours

STEP 3 – Compute, by adding together all students' hours, the number of total hours these students spend in school.

Check Point

Ask your instructor if your answer agrees with answer sheet.

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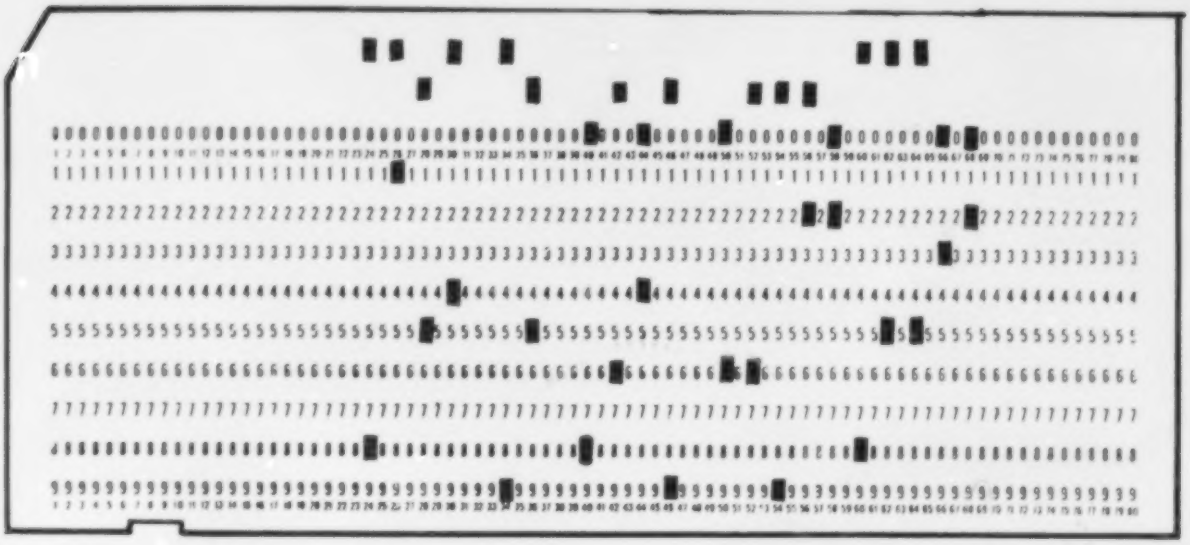
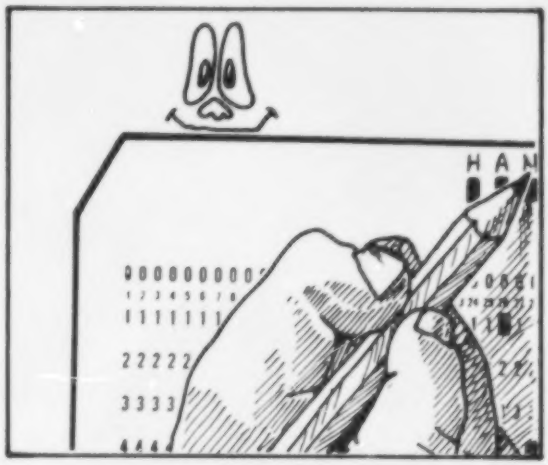
Instructional Objective XII

Given a punched card containing a message, the student will act as interpreter and read the message.

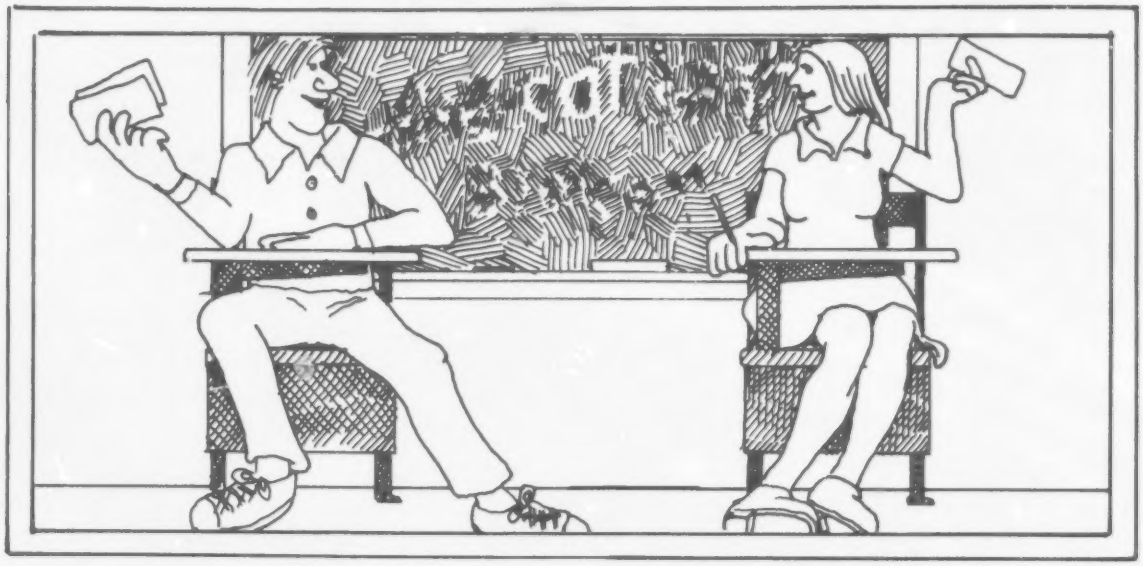


STEP 1 – Look at the illustration of the punched card. Turn to your work sheets for the message card.

STEP 2 – Using the alphabetical code that you have learned (no numbers are on this card), interpret the message.



STEP 2A – Look at each column and print carefully the letter punched in the column at the top of the card.



STEP 2B – When you have completed the message, do as directed.

Check Point

Consult with instructor.

203.582-070 VERIFIER OPERATOR (clerical) keypunch verifier.

Operates keyboard type machine that verifies accuracy of data in punched tabulating cards and rejects incorrectly punched cards: Places punched cards in machine. Depresses keys in same sequence required to punch cards. Removes incorrectly punched cards as indicated by light or by key that will not depress. Stacks verified and corrected cards in rack for mailing. May punch corrected card, using keypunch machine. May tend machine that sorts perforated tabulating cards into specific groups [SORTING-MACHINE OPERATOR (clerical)].

203.582-030 KEYPUNCH OPERATOR (clerical) card-punch operator; printing-card-punch operator; printing-punch operator.

Operates alphabetic and numeric keypunch machine, similar in operation to electric typewriter, to transcribe data from source material onto punchcards, paper or magnetic tape, or magnetic cards, and to record accounting or statistical data for subsequent processing by automatic or electronic data processing equipment: Attaches skip bar to machine and previously punched program card around machine drum to control duplication and spacing of constant data. Loads machine with decks of tabulating punchcards, paper or magnetic tape, or magnetic cards. Moves switches and depresses keys to select automatic or manual duplication and spacing, select alphabetic or numeric punching, and transfer cards or tape through machine stations. Depresses keys to transcribe new data in prescribed sequence from source material into perforations on card, or as magnetic impulses on specified locations or. tape or card. Inserts previously processed card into card gage to verify registration of punches. Observes machine to detect faulty feeding, positioning, ejecting, duplicating, skipping, punching, or other mechanical malfunctions and notifies supervisor. Removes jammed cards, using prying knife. May tend machines that automatically sort, merge, or match punchcards into specified groups. May verify accuracy of data, using verifying machine [VERIFIER OPERATOR (clerical)]. May perform general typing tasks [TYPIST (clerical)]. May keypunch numerical data only and be designated KEYPUNCH OPERATOR, NUMERIC (clerical).

208.685-030 SORTING-MACHINE OPERATOR (clerical) card-sorting-machine operator; sorter-machine operator; verifier-sorter operator.

Tends machine that automatically sorts perforated tabulating cards into specified groups: Riffles cards to prevent over feeding and jamming and places cards in feedbox. Pushes buttons on sorting control panel to regulate sorting process. Starts machine and sights through holes to verify sorting. Removes sorted cards from bins. Removes jammed cards to clear machine. May reproduce damaged cards on keypunch machine. May operate tabulating machine, verifying machine, or switchboard.